ROLE OF LIGHT ENGINEERING SECTOR IN FOREIGN EXCHANGE EARNINGS, EMPLOYMENT GENERATION AND INCOME DISTRIBUTION. A CASE STUDY OF GUJRANWALA, GUJARAT AND SIALKOT DISTRICTS

KHIZRA SAFDAR KHAN
Roll No. 11-GCU-PhD-2004
Session: 2004-2009

DEPARTMENT OF ECONOMICS
GOVERNMENT COLLEGE UNIVERSITY, LAHORE.

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KHIZRA SAFDAR KHAN
Roll No. 11-GCU-PhD-2004
Session: 2004-2009

DEPARTMENT OF ECONOMICS.
GOVERNEMNT COLLEGE UNIVERSITY, LAHORE.

RESEARCH COMPLETION CERTIFICATE

Certified that the research work contained in this thesis titled "ROLE OF LIGHT ENGINEERING SECTOR IN FOREIGN EXCHANGE EARNINGS, EMPLOYMENT GENERATION AND INCOME DISTRIBUTION: A CASE STUDY OF GUJRANWALA, GUJARAT AND SIALKOT DISTRICTS" has been carried out and completed by Ms. Khizra Safdar Khan under my supervision during her Doctor of Philosophy in Economics studies.

Date: _____

Supervisor
_____

(Dr. Wasif Siddiqi)

Submitted through:

_____
Dr Tasneem Zafar, Chairperson.
Department of Economics
Government College University, Lahore.

DECLARATION

I, Khizra Safdar Khan, student of Doctor of Philosophy in the subject of Economics, hereby declare that the matter printed in the dissertation titled "**ROLE OF LIGHT ENGINEERING SECTOR IN FOREIGN EXCHANGE EARNINGS, EMPLOYMENT GENERATION AND INCOME DISTRIBUTION. A CASE STUDY OF GUJRANWALA, GUJARAT AND SIALKOT DISTRICTS**" is my own work and has not been printed, published and submitted as research work in any form in any university, research institute etc. in Pakistan or abroad.

Deponent:

Dated: _____

_____

Khizra Safdar Khan
PhD Economics
GCU Lahore

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SAHIB GI

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Khizra Safdar Khan

Abstract

The small industries are considered to be an important component of economic sustenance in the whole world and particularly in developing countries. From worldwide perspective, SMEs are recognized as engine of economic growth because of their dependence on indigenous skills and technology, innovativeness and expansion of industrial linkages. SMEs are endogenously based enterprises as their connections with the large multinational corporations lead to rapid growth and expansion of SMEs. They also play a vital role in employment generation and poverty reduction. In addition they contribute towards resource mobilization, revenue generation through export earnings, employment generation, equitable distribution of income, and development of an entrepreneurship. There are many factors affecting the export process of SMEs. The study has tried to investigate the factors influencing the process of internationalization on the part of Light engineering units operating in Gujranwala, Gujarat and Sialkot Districts which were at least in the business during the last two years till the survey, i.e. 2008 and 2009, with a valid sales tax registration number allotted from Gujranwala sales tax collectrate. It has also highlighted the importance of exports being an important means of providing employment opportunities among SMEs. The primary objective of the study is to examine the role and importance of firm level characteristics, technological capabilities, commercial capabilities and factors inhibiting export activities as determinants of export performance. Empirical data from a survey of 1201 Light engineering units in survey area is utilized for analytical purposes constituting of 318 exporters. Logistic regression model has been utilized to find out the probability of being exporter. Instrumental variable approach is being employed to encompass the role of innovation in the probability of being exporter. The results of instrumental equation are incorporated in the basic export model to estimate the final results. Results from the logistic model indicate that all the three measures of innovation positively improve the probability of being exporter. According to the estimated results, firm size, firm age, manufacturing status as contractor, diversification (product mix), presence of registered trademarks, participation in promotional activities through trade fairs and personal visits, fitted values in terms of innovation i.e. new product, new process and major improvements are found to be significantly and positively correlated with the probability of being exporter. Export restricting factors like non-cooperative attitude on behalf of government organizations, competition in foreign markets, financial problems, lack of cost competitiveness and expensive foreign trips are found to be significantly and negatively associated with the probability of being an exporter. The factors like initial investment made by firm at its inception, affiliation with area and product wise trade unions, average revenue and wage, trademarks, participation in promotional activities through references, non availability of information regarding foreign markets are proved to be insignificantly affecting the probability of participating in international market. The research ultimately recommends

that the government export assistance programs should be modified according to the requirements of SMEs. Restrictions to enter the international markets are analytically stricter for small firms as compared to their large counterparts. The problems of capital shortage and management skills, and lack of basic information are considered to be the main obstacles faced by small units in the process of internationalization imposed by government agencies. Though government has offered some support programs, they are not considered to be sufficient enough to encourage small firms to enter in the international market. Moreover, special attention should be given regarding the designing of policy options corresponding to the requirements of firms as they go through the different phases of the process of internationalization. Exports contribute positively among firm's growth in terms of employment generating activities. Analysis of variance analysis is being employed to investigate the role of exports on firm's growth in terms of firm-specific factors along with owner-manager characteristics, organizational and commercial capabilities as important determinants in terms of generating employment opportunities. Different problems and obstacles encountered by SMEs in generating employment activities are also been undertaken in the current study. Government should device such policy measures that can help small units to grow in international markets and generate employment opportunities. Poverty is a multifaceted phenomenon relying on a number of different social, economic, social and demographic aspects. An understanding to the true perspective of nature, intensity, and causes of poverty can be considered as a prerequisite for effectual course of action to reduce poverty. Study has attempted to explore the impact of various socioeconomic and demographic determinants on the poverty status of 2025 employees of different exporting and non-exporting firms, by employing primary data collected from sampled 1201in survey area. Gini coefficients are being constructed in order to measure the extent of income inequality among the surveyed employees engaged in different exporting and non-exporting units. FGT indices along with different indicators like Sen and Sen-Shorrocks-Thon indices have been employed in the study to present a more detailed insight to different dimensions of poverty in both scenarios, adding positively to the argument that SMEs participating in international markets are really contributing to enhance the living standard of their employees as compared to those confined only to domestic markets.

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
ANOVA	Analysis Of Variance
CAD/CAM	Computer Aided Design/ Computer Aided Manufacturing
CIP	Competitiveness And Innovation Program
CIS	Community Innovation survey
CMI	Census Of Manufacturing Industries
COMTRADE	Common Format For Transient Data Exchange For Power Systems
CPI	Consumer Price Index
CPRC	Chronic Poverty Research Center
DEA	Data Envelopment Analysis
ECS	European Company Survey
EEA	European Economic Area
EOI	Export Oriented Industrialization
EU	European Union
EUROMOD	Multi Country Europe Wide Tax Benefit Model At The University Of Essex
EU-SILC	European Union Statistics On Income And Living Conditions
FGT	Foster, Greer, & Thornback Indices
GDP	Gross Domestic Product
HIES	Household Integrated Economic Survey
ICS	Investment Climate Survey
IFAD	International Fund For Agricultural Development
ILO	International Labor Organization
ISI	Import Substitution Industrialization
LDC	Less Developed Countries
LR	Likelihood Ratio
MES	Minimum Efficient Scale
MLE	Maximum Likelihood Estimation
MOST	Media Oriented System Transport
NGO	Non-Governmental Organization
NIC	Newly Industrialized Countries
OECD	Organization Of Economic Co-Operation And Development
OLS	Ordinary Least Square
PIHS	Pakistan Integrated Economic Survey
PFIS	Poverty Focused Investment Strategies For The Punjab
PSM	Propensity Score Matching
R^2	Coefficient of Determination
R&D	Research And Development
RCA	Revealed Comparative Advantage
SBRI	Small Business Research Initiative

SBP	State Bank Of Pakistan
SME	Small And Medium Enterprises
SMEDA	Small And Medium Enterprise Development Authority
SPSS	Statistical Package For Social Sciences
SST	Sen-Shorrocks-Thon Index
STATA	Data Management, Statistical Analysis , Simulation Software
TDAP	Trade Development Authority of Pakistan
UK	United Kingdom
UN	United Nations
UNIDO	United Nations Industrial Development Organization
UNO	United Nations Organization

Chapter 1

Introduction

1.1 Overview of the Study

The idea of international trade being the engine of the growth is very old; its inception can be found back in the 19th century's industrial revolution in England which later on spread to the rest of the world in the 20th century. However, during the second half of the 20th century, the idea lost its popularity. The dominance of protectionist theories in the policy making of many developing countries persuaded industrialization policies based on a very limited degree of openness known as "Import Substitution Industrialization" strategies, which had their source back in the thinking of Prebisch (1950)[1].

During the 1950s, 1960s and in early 70s, large number of development economists embraced the protectionist view and begin to design planning models depending heavily on import substitution strategy (Salvatore, 2006). The policy of industrialization through import substitution generally met with limited success. But growth oriented strategies based on Import Substitution exhibited their own limitations i.e. their implementation in many countries failed to address the major problems like low income earnings, unemployment and poverty (UNIDO, 1991). Therefore emphasis was laid on sectoral restructuring and policy redesigning. In early 1980s, many countries who earlier followed an ISI, began to liberalize trade and adopted Export Oriented Industrialization[2] . In addition, debt crises in 1982 also played an important role in reshaping the policy views.

Thus, the importance of industrialization cannot be denied being an improved strategy to provide employment opportunities and economic growth as compared to traditional agricultural sector. It is characterized with more foreign exchange earnings through exports of value added products along with optimal utilization of domestic resources by establishing forward and backward linkages in the economy. In case of developing countries like Pakistan, motivation behind each development policy is to

[1] A periodic decline in the export price of raw materials and commodities produced by LDCs resulted in a widely growing disparity between them and rich countries and in order to decrease that disparity the LDCs had to protect their newly emerging manufacturing sector.

[2] Hong Kong, Korea and Singapore followed Export oriented Industrialization in early 1950s, while Korea followed ISI with EOI (Salvatore, 2006).

provide employment opportunities to its accelerated growth of population along with a considerable increase in their living standard but establishment of large scale industrialization requires resources in abundance, therefore alternatively, emphasis should be laid on the establishment of small scale sector in order to resolve all these problems[3].

The small industries are considered to be an important component of economic sustenance in the whole world and particularly in developing countries. From a worldwide perspective, SMEs are recognized as engine of economic growth because of their dependence on indigenous skills and technology, innovativeness and expansion of industrial linkages[4]. SMEs are endogenously based enterprises as their connections with the large multinational corporations lead to rapid growth and expansion of SMEs. They also play a vital role in employment generation (Carree & Klomp, 1996; Osmani, 2004) and poverty reduction[5]. The experience of developed nations exhibited that promoting SMEs sector is one of best way to boost up employment activities and particularly a developing country like Pakistan can not only provide more employment opportunities to its growing population by promoting SMEs sector but also can improve their living standards.

The major aspect of Pakistan's economic development policies has always been the maximization of output growth, with little emphasis on the issues of widespread poverty, socioeconomic differentials, and inauspicious demographic issues. In spite of high rates of economic growth along with steady improvement in major macroeconomic indicators, it has failed to trickle down to the Pakistan's poor.

SMEs are characterized with provision of low cost employment opportunities. Poverty level can be reduced by providing job opportunities to destitute. From a worldwide perspective, SMEs are recognized as engine of economic growth, innovativeness and expansion of industrial linkages. In addition they contribute towards resource mobilization, and equitable distribution of income, promotion of craftsmanship,

[3] Government of Pakistan had estimated a required investment of Rs. 5.2 trillion in large scale sector to provide employment opportunities to an addition of 16 million persons to the labor force while only Rs. 8 billion are required in case of small/micro scale sector (http://www.pakistan.gov.pk/ministries/planninganddevelopment ministry/mtdf).

[4] Gebremariam et.al, 2004, Beck & Demirgüç-Kunt, 2004, et.al, 2005, and Tambunan, 2008.

[5] Mukras, 2003, Antonio, 2003, and Liu et.al, 2008.

egalitarian structure of society and development of an entrepreneurial culture. SMEs are also instrumental in skill acquisition through a system of informal apprenticeship by providing training ground for up gradation and skills development.

Human Development being the ultimate objective of each and every public policy plays a vital role in producing high skilled manpower leading to economic growth and hence economic development (UNDP (1990)). Economists consider human development as one of the most important ingredients of economic growth. In late 1950s and 1960s, physical capital (PC) was given too much role in explaining economic growth but long run economic growth can be explained only by assuming an exogenous technological progress (formally known as 'Lucasian Approach' (Lucas (1988)). Later on in late 1980s and early 1990s, economic growth models were extended by inclusion of human capital (HC) and thereby endogenous growth theories emerged (Romar (1986, 1987, 1990); Lucas (1988); Grossman and Helpman (1991); Rebelo (1991)). The second approach called 'Romerian' (Romer (1990)) depends upon the idea that human capital promotes technological advancement While explaining endogenous growth theory, Lucas (1988), Romer (1990) and Grossman and Helpman (1991) have argued that either human capital or trade is main source of economic growth. Exports, being the important part of trade, are considered as important ingredient of progress and prosperity of both developed and developing nations.

There are 20.5 million enterprises in the European Economic Area (EEA) and Switzerland, 93 per cent of these are accorded as SMEs, generating employment opportunities for 122 million people (European Commission, 2003). SMEs also contribute towards the economy of United Kingdom, with businesses characterized with fewer than 250 employees account for 56 per cent of the non-government jobs generating 52 per cent of turnover[6]. In Organization of Economic Co-operation and Development (OECD), SMEs represent over 95 per cent of enterprises in most countries and generate over half of private sector employment[7]. The International Finance Corporation states that in much of the developing world the private economy is almost entirely comprised of SMEs and they are the only realistic employment opportunity for millions of poor people throughout the world (Lukacs, 2005). Further, dynamically active SME sector is

[6] Lukacs, 2005.
[7] OECD: Economic Outlook, No. 65, June 2001.

characterized with provision of employment opportunities specifying their industrialization potential and equitable distribution of income through transition of its workers from low to middle income status. Thus SMEs perform as catalyst in the process of economic change and through innovation process in terms of new technologies and management methods in countries like Thailand, Turkey and India (Mahmood, 2008).

Therefore, it is necessary to understand different factors affecting the process of firm growth in order to device such policy options that can facilitate small unit's growth. The focus on the firm growth has been intensified in the last two decades. Various disciplines investigated to find out the determinants of firm growth include innovation, strategy, psychology, economics and network theory. However, it is observed that information regarding firm growth is quite inadequate (Davidsson & Wiklund, 2000, and Wiklund et.al, 2009) because of the fragmented nature of existing literature. As research from a psychological point of view asserts on the entrepreneurial behavior (Begley & Boyd, 1987), investigation regarding firm's strategy focuses on the association among business strategy, environment and growth (McDougall et.al, 1992). Whereas research regarding firm's economic conditions focuses on the relation between its growth and size (Audretsch et.al, 2004). Thus, the existing literature presents more diverse point of views, with a little attention on more integrated presentation of determinants that explains the process of firm growth.

The dissertation has provided an insight into the export process of Light Engineering Units and its association towards job creating capabilities and well being of their workers. Main research questions addressed in this study are:

- What are the major factors influencing the export performance of Light Engineering Units?
- How the firm's exporting incidence is affecting job creating capacity of Light Engineering Units?
- Whether the export performance of firms is influencing the poverty status of their employees?

1.2 Research Problems

Small and medium enterprises (SMEs) are regarded as engine of economic growth in flourishing and prosperous economy by generating employment opportunities

for rural and urban population, income generation, facilitating process of innovation through entrepreneurship and enhancing international trade through diversification of economic activities. Beside all these contributions on the part of SMEs, the factors of inexperience and lack of financial, managerial and technological capabilities restrict them to exploit their potential to full extent. The present study is planned to investigate the main determinants affecting the export performance, growth process and poverty status of employees of a particular sector of SMEs (Light engineering Sector) operating in Gujranwala, Gujarat and Sialkot districts.

The economic strength of a country is an aggregation of the strengths of its industry and by the same logic, it is the strengths or weaknesses of the individual firms in a country, which determine the strengths or weaknesses of the country. The trade deficit performance of a nation cannot be explained by considering only the macro-economic phenomena. Nations like Japan and Germany, which have achieved highly competitive positions in the international market, have SMEs involved actively in the international trade and they count for a huge per cent age of country's export (OECD, 1998). The experience of developed nations showed that promoting SMEs sector is one of best way to boost up economic activity, and particularly a developing country like Pakistan can increase its foreign exchange earnings through accelerating its exports, and SMEs can be considered as an effective manner to achieve this target.

With the development and overtime growth of SMEs and their role in foreign exchange earnings, employment generation and income distribution is of paramount importance[8]. According to a study conducted by Pakistan Board of investment (2007), there are about 2500 registered units of Light Engineering Sector along with a much larger number of units operational in unorganized sector. Majority of these units are operating in the cities of Karachi, Lahore, Gujranwala, Gujarat and Sialkot. The study is based on the SMEs in Gujranwala, Gujarat and Sialkot districts as they account for more than 70 per cent of the total light engineering industry in Pakistan[9]. Pakistan is an economy of SMEs, but their potential is not exploited to optimal level.

[8] ibid

[9] Board of investment, 2007.

Pakistan has a fair record of real GDP growth rate (an average rate of around 5 per cent per annum from 1952-2011) with a growth rate of about 3.07 per cent for 2009-10 (Handbook of Statistics on Pakistan Economy, 2010) and 3.04 for 2011-12 (SBP Annual Report, 2011-12). Fiscal deficit accounts for about 4.3 per cent of GDP during July/March 2011-12 expected to exceed the target of 4.7 per cent of GDP (SBP Third Quarterly Report, 2012). It has been estimated as 8.5 per cent of GDP for the fiscal year 2012 according to SBP Annual Report, 2012. Inadequate investment, low level of export earnings along with high import expenditures, low saving rates lead to the problem of unemployment, poverty and unequal income distribution. As Large scale manufacturing along with services and agriculture sectors are unable to meet the prospective requirements of Pakistan in the long run. Therefore, development of SMEs can be considered as a panacea for these problems.

Poverty and unemployment are the major economic problems faced by most of developing countries and these are the consequence of fundamental and disproportionate relationship between population and available resources. Under these conditions, the issues of poverty and unemployment can be solved by the modernization and expansion of the SMEs and through introduction of new businesses capable of improving production level and improving the living standard of its employees.

HDI of 0.5375 depicts a dismal picture regarding overall situation of Pakistan's manpower. Moreover literature suggests that the hypotheses of human capital based endogenous growth are not found valid for Pakistan from 1970-2008 (Afzal et.al 2009). It might be because of the two main reasons: firstly, due to poor infrastructure of education and health and having poor political and administrative leadership both at the higher level as well as at the local institutional level. And, secondly, the outcome of mismatch between existing human capital stock and required human capital stock to produce and enhance value added exports and real GDP. It is, therefore, recommended that Government of Pakistan should allocate more resources for the promotion of human capital.

There are many factors affecting the export and growth process of SMEs. This study is an effort to investigate the factors affecting the process of firm's export as a panacea for the problems of unemployment and poverty, while investigating Light

engineering units operating in Gujranwala, Gujarat and Sialkot Districts which were at least in the business during the last two years till the survey, i.e. 2008 and 2009, with a valid sales tax registration number allotted from Gujranwala sales tax collectrate. The study has empirically tested the appropriateness and support of the factors influencing SMEs process of internationalization, growth and well being of their employees.

1.3 Research Objectives

Considering the strategic role played by SMEs in industrialized economies, it appears essential to examine how they contribute towards foreign exchange earnings, employment generation and poverty reduction. The main objectives of this study are as following:

- To explore the role of main factors affecting firm's export performance.
- To determine the role of exports on the firm's growth in terms of employment generating opportunities.
- To analyze the poverty profiles of employees engaged in exporting and non-exporting firms in terms of socio-economic and demographic characteristics.
- To explore policy implications that can facilitate SMEs to participate positively in international markets, generate employment opportunities and improve the well being of their employees more effectively.

1.4 Operational Definitions

Operational definitions include determinants of export performance, firm's growth and poverty status of employees. Different aspects of the SMEs considered in the study are elaborated as follows.

Determinants of Firm's export is the phrase used in the study to characterize different possible factors affecting in a univariate or multivariate context on the probability of being an exporter either in a positive or negative manner. Specifications of factors affecting export performance of SMEs are being categorized as firm level characteristics[10], technological and commercial capabilities[11] along with the factors restricting firms to enter in international market.

[10] It includes factors like firm size and age, manufacturing status as contractor or sub-contractor, affiliation with area and product wise trade unions, average revenue and wage along with investment made by owner/manager at the start of business.

Dynamism and willingness of SMEs to engage themselves in international activities is obstructed by different factors like availability of information, non-cooperation of government agencies, competition intensity in foreign markets, along with problems of finance difficulty and cost competitiveness faced by small firms in international markets are also investigated in the analysis.

In order to encompass the impact of exports on firm's growth in terms of employment generation capacity, different specifications of factors affecting firm's growth are considered as firm level and owner-manager characteristics. Firm related factors can be described on the basis of knowledge, abilities or skills required for a particular job. Under firm characteristics, the study has employed individual firm's characteristics, organizational/business practices, technological capabilities and factors affecting market structure. The Owner-manager characteristics are categorized on the basis of general back ground, growth motivational attributes and management know-how on behalf of owner-manager of the firm.

Poverty profile is constructed to present the impact of the nature of a firm as exporter or non-exporter on the well being of its employees. The present study has utilized the inflated poverty line developed by Planning Commission, for the year 2008-09 and a threshold level of Rs.1398.23 per month per adult equivalent has been utilized for distinguishing poor from non-poor. Among the factors affecting the poverty status of an employee, the socioeconomic[12] and demographic characteristics [13]of employees are being analyzed.

1.5 Small and Medium Enterprises

SMEs can be defined on the basis of employment, capital and sales levels. Literature has defined SMEs by a wide variety of definitions and criteria and firms in the SME sector in general revolve around the owner/entrepreneur.

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[11] Technological innovation comprises of product and process innovation along with major improvements in existing products. While the factors like product diversification, trademarks and registered trademarks, use of imported raw material, utilization of trade fairs, personal references and networks for exploring international market opportunities are grouped under the Commercial Capabilities.

[12]Factors of participation rate, employment, income, consumption expenditures and household property and assets in terms of sources of agricultural income and physical assets are investigated as economic characteristics. The social indicators involve different aspects of education, health and shelter.

[13] It includes factors like household size, dependency ratio, and female male ratio along with age and education of household head.

According to Storey (1994), there is no particular, homogeneously acceptable definition of SMEs. The explanation regarding roles of a small firm in any economy is difficult to quantify, with the fact that there are many definitions explaining the nature of small business.

Verhees and Meulenberg (2004) define SMEs as "a firm that is run and controlled under the direct supervision of the owner." SMEs have also been defined by the number of employees;

Chew (1988) defines small businesses as: tiny establishments – firms with 5-9 workers; small establishments – firms with 10-49 workers; and medium establishments – firms with 50-99 workers.

SMEs have been defined as firms having less than 100 employees (Nooteboom, 1994, and Fong, 1971).

In case of Pakistan, SME Bank defines small firm possessing total assets of Rs. 20 million and medium firms with total assets of Rs. 100 million. Federal Bureau of Statistics defines small firm characterized with less than 10 employees.

According to Small and Medium Enterprise Development Authority (SMEDA), small firm is defined as an enterprise employing 10-35 workers or possessing the productive assets of about Rs. 2-20 million. Whereas, medium firms are characterized as firms with 36-99 employees or having productive assets of Rs. 20-40 million. The definition proposed by SMEDA is being employed in the study describing small and medium enterprises as firms employing less than 100 employees and possessing the productive assets of about Rs. 40 million[14].

In terms of the theory of market structures, despite their dominance in terms of assets, employment and turnover, only around 1% of firms are oligopolies, duopolies or monopolies. In many industries, firms are either monopolistically competitive or operate in conditions which approximate to perfect competition. Also with reference to foreign demand the SMEs can be segmented into perfect competition firm producing "more of the same" and monopolistically competitive firm, each with specialized expertise (Kato and Wan (2001); Henry (2004). The key here is that these types of markets have very

[14] Definitions are extracted from the Table of SME Definitions used by various institutions in Pakistan ANNEX-III Developing SME Policy in Pakistan.

low barriers to entry, meaning that, at any one time, large numbers of firms exist with each having a low market share - hence the size of each individual business is likely to be 'small' relative to the total market size. In the present study market structure is both of monopolistic competition (for contractors) and perfect competition (for sub contractors).

1.6 An Overview of Light Engineering Sector in Pakistan

The state of the engineering industry describes the status of industrialization of a country. The range of light engineering goods in Pakistan covers electrical goods, transport equipment, domestic appliances, and telecommunication equipment etc. There are about 2,500 registered units and a much larger number in the unorganized sector, operating in Karachi, Lahore, Gujarat, Gujranwala and Sialkot[15]. The engineering industry accounts for 14.8 per cent of value added and comprise basic metals (4.3 per cent), metal products (1.2 per cent), machinery (1.1 per cent), electrical machinery (3.3 per cent), transport equipment (4.7 per cent) and measuring instruments (0.2 per cent). [16] It has forward and backward strong linkages and as such can play a crucial role in the growth process. The share of engineering goods imports is 31.2 per cent of Pakistan's total imports[17]. In addition to exports of conventional surgical instruments, cutlery goods and other light engineering product, Pakistan still is far behind in export of engineering goods as compared to NICs[18].

Major categories of Light Engineering Sector involve surgical instrument industry, electrical fan industry, cutlery industry, auto spare parts industry, pumps manufacturing, dies and molds, food and packaging machinery, electric motors and miscellaneous[19]. But this discussion has utilized seven Light Engineering categories comprising of electric fans, electric motors, electric goods and parts, electrical machinery, washing machines, parts of washings machines and water pumps.

The Light Engineering sector has been chosen to be investigated in the present study because of the fact that Gujranwala has the privilege to be ranked as the third largest industrial center in the country after Karachi and Faisalabad. Different types of

[15] Board of Investment, 2007.
[16] http://www.pakistan.gov.pk/ministries/planninganddevelopment-ministry/mtdf
[17] ibid
[18] The Korean and Malaysian economies have built their foundations on the engineering industry and had large percentage of their exports concentrated in engineering goods.
[19] www.engineeringpakistan.com/EngPak1/Products.php

industries are being developed here on varied scales, with a dominant role of light engineering industry besides leather, textile, electrical engineering, cutlery, ceramics and many others. While there is also some concentration of different categories in Gujarat and Sialkot Districts.

1.7 Role of SMEs in Pakistan's Economy

In 1947, Pakistan inherited an undeveloped industrial base. Pakistan followed ISI initially by default. Industrialization process in Pakistan was initiated with the development of consumer goods (skill light). The extraordinary growth in Pakistan's Industry in the later part of 1950s and in 1960s[20] suggested that Pakistan might be one of the very few countries at that time which would join the developed world. Very high rates of effective protection in the range of 100-200 per cent or more were common in 1950 and 1960s in Pakistan, India, Argentina and Nigeria leading to negative value addition (Dollar & Aart, 2001). 1970's witnessed the broad nationalization wave, while 1980's was a period of de-nationalization and cheap credit availability for large enterprises[21]. In 1980s Pakistan also started EOI along with ISI. Overall industrial and related policies in Pakistan have traditionally neglected or at best remained impartial towards the development of small and medium enterprises. In spite of the indifferent attitude of successive governments in Pakistan, the SME sector has made significant gains over time. It grew at a rate in excess of 7.2 per cent in capital formation growth as against the large scale capital formation growth of -5.02 per cent in the 1990's (SMEDA, 2004). A shift in the emphasis from large scale to small scale sector could be considered as a consequence of inauspicious policy experiences of heavy industrialization or due to recognition of the inherent strength, vigor and potential scope of the SME sector in Pakistan.

While in case of Pakistan, SMEs constitute more than 99 per cent of businesses and most of these are handled by the private sector. There are about 3.2 million economic establishments In Pakistan, 99 per cent of these are accorded as SMEs, according to the definition of SMEs by SMEDA. They contribute about 35 per cent towards value

[20] In the year 1959-60, there were 2758 number of establishments in Pakistan which was 37.79 percent more as compared to those of 1955-56 (2031 units), while in year 1964-65 total number of establishments were 3212 indicating a 58.17 percent increase as compared to last decade of 1950s (CMI, various issues).
[21] PFIS Punjab, 2005.

addition in manufacturing sector, 30 per cent to GDP, 25 per cent to manufactured exports and 99 per cent towards employment generational activities[22]. Thus, indicating the importance of SMEs in the economic growth of Pakistan along with their unexploited potential. In Pakistan, importance of SMEs is evident from the factors consisting of promotion of an entrepreneurial culture providing resilience towards economic growth, contribution towards export earnings, reducing income inequalities through equitable distribution of wealth, acting positively for poverty reduction through generating new employment opportunities; facilitate the process of innovation leading to diversification of economy and towards an efficient utilization of available resources.

SMEs are therefore considered crucial for prospective growth of developing countries to build and support an economic environment, fostering and facilitating the growth of SMEs to realize its exact capacity.

1.8 Why this Research?

SMEs are considered as an important driving force in Pakistan's economic development. Their contribution and business participation are considered of vital importance for the development of country, and an investigation regarding the factors affecting their export performance, growth process and poverty profile of its employees is of considerable importance. They contribute positively towards revenue generation through export earnings, employment generation and poverty reduction. Empirical research conducted earlier has verified different factors relating to export performance and growth process of small firms separately. Not such investigation is being conducted to combine the issues relating to export orientation and employment generating of small firms along with presentation of poverty profile of employees of a particular sector of SMEs (Light Engineering Units) operating in the area of Gujranwala, Gujarat and Sialkot Districts.

The present study is novel in the nature as it has incorporated three main aspects relating to SMEs by investigating a sample of 1201 Light Engineering Units and 2025 employees engaged in these 1201 sampled units. The study can provide a framework facilitating owner-manager of SMEs to examine and strengthen their competitive position while entering in an international market and their growth in terms of employment

[22] Economic census of Pakistan (2005).

generation along with improvement in the living standards of their employees. The study will be helpful for business practitioners, researchers and policy makers regarding requirements and challenges in achieving success in international markets and generating employment opportunities.

1.9 Origin of the Study

The study has described the three main aspects of SMEs concerning the main issues regarding their export performance, employment generating opportunities and poverty status of its employees. These factors encompass a wide variety of issues relating to these three aspects. The analysis is both descriptive and analytical in nature with a combination of theory and practice. Suggestions will be made regarding suitable policy implications facilitating firms in their process of internationalization and growth performance permitting them to generate employment opportunities and also enabling their employees to improve their living standards.

Chapter 2

Literature Review

2.1 Introduction

The economies of all countries have been strongly influenced by SMEs, principally in rapidly changing and progressively competitive international era (Aharoni, 1991, and Drilhon & Estime, 1993). The SME has been recognized as a major contributor of technological progress and economic growth (Mulhern, 1995, and Thornburg, 1993). The characteristics of SMEs comprising of innovativeness, flexibility, and analytical orientation have considered being vital for firm's success since 1990s. Firm growth is found to be motivated both by external opportunities, and internal inducements. Economic situation and government involvement are the main factors in affecting firms export and g1rowth in terms of external success determinants. The factors of capital, firm as well its business strategies are considered as internal success determinants determining success of the firm in the market structure. In this section, a comprehensive review of the literature regarding small business growth both in terms of international markets and employment generating capabilities is provided.

2.2 Previous Research in Firm's Export and Growth and Poverty

In 1960s, researchers have shifted their emphasis on the export performance of firms, although this segment of research got full attention in the eighties. In initial time period, the focus of the research was on the behavior of exporting firms without giving much consideration on export performance[23]. In eighties and particularly in nineties, internationalization process of firms became a subject of interest in economics, business, politics, and the technical arena. Increasing number of researchers exhibit their commitment in the process of explaining the export performance of firms. With the passage of time, the increased focus on export research resulted in the development of different theoretical frameworks explaining the firm's internationalization process[24] along

[23] Bilkey (1978) performed a literature review comprising of forty-three exporting studies including only four studies explaining export performance of small firms.

[24] It includes work of Madsen (1987), Miesenbock (1988), Aaby & Slater (1989), Gemünden (1991), Chetty & Hamilton (1993), Styles & Amber (1994), Zou & Stan (1998), Leonidou, Katsikeas & Samiee (2002), and Sousa & Alserhan (2002).

with devising methods to measure different determinants affecting the export performance.

Miesenbock (1988) in his work focused on small firms and their exporting behavior. According to his analysis, the one who makes the decisions (entrepreneur) is the only factor that affects the process of internationalization in a significant manner. Moreover, the review of empirical studies suggests that exporting is a sequential process enabling firm to enter gradually in the international market, thus supporting the Stages Theory of Internationalization (Johanson & Vahlne, 1977). Lastly, the author concluded that the research should be based not only on sophisticated investigation, but it also requires suitable statistical methods, so that proper inference can be drawn from the research.

The work of Madsen (1987) comprises of a detailed review of seventeen studies based on export performance of small firms, published between 1964 and 1985. He has classified twenty three operationalized factors employed in these studies to build up the Strategy-Structure-Performance model. According to the author, the organizational performance (O-performance)[25] is the outcome of a permanent interaction with other factors named as organizational structure (O-structure)[26], the constitution and performance of environment (E-structure)[27], along with the firm's strategies (strategy)[28]. The author pointed out several limitations including lack of interaction effects, the causality issue, and dependence on limited number of operationalized variables in each study.

Aaby & Slater (1989) published their renowned article regarding the managerial influences on firm's export performance. Following Bilkey (1978), the study is based on the review of fifty-five empirical studies about firm's export performance published between 1978 and 1988. The extensive review helped in synthesizing a framework distinguishing four independent variable categories, including environment,

[25] It comprises of the factors like export profitability, export sales and export growth.

[26] Factors like General company resources, knowledge of export marketing, management support, status of export organization and technological intensity are being summarized under this category.

[27] E-structure comprises of factors like export market attractiveness, trade barriers, physical distance to market, psychological/cultural distance, domestic market attractiveness and type of market

[28] Variables including market research intensity, price competitiveness, planning & control intensity, product strength, internalization marketing function, channel support, communication intensity, adaptation of marketing policy and marketing concentration are being categorized under the title of Strategy.

competencies[29], firm characteristics including firm size, management commitment towards different factors[30] and strategy[31], against one dependent variable of export performance[32]. According to authors, with respect to firm level characteristics, the variable of firm size is proved to be the most important factor relating to the aspects of financial strength and economies of scale. The determinants like management commitment, management systems and planning along with export experience all exert positive impact on export performance. Misperception about the costs and risks associated with the process of exporting are considered as major factors preventing non-exporters to enter in international markets. The authors have made some research recommendations concerning the research design including the use of superior measurement of export performance and employment of longitudinal designs for analytical purposes.

Bird's (1989) work investigated that successful small firms were characterized by the factors of education and risk-taking attitude on the part of owner-manager along with innovation. Murphy (1986) explored that dedication, hard work and career commitment are the characteristics of successful owner-manager. Hill & Narayana (1990) observed that a successful firm is characterized by factors like provision of good quality goods and services, excellent reputation with reference to customer response, employee devotion to work and good organizational capabilities. Larson (1987) investigated that factors of operating efficiency, firm's growth potential, excellence and innovation are found to exert a positive influence on Firm's performance.

Cooper and Dunkerberg (1989) empirically evaluated the divergence between small and larger firms in terms of organizational processes, entrepreneurial background, and perception regarding problems, transformations and financing. Box and Hisrich (I994) investigated the impact of entrepreneurial characteristics, psychological

[29] This category involves factors like technology, export/market knowledge, planning, export policy, management control, quality and communication.

[30] It includes management perception towards financial incentives, competition, market potential, distribution, delivery, and service, government incentives and risk.

[31] According to Aaby and Salter (1989), firm strategy is composed of market selection, use of intermediaries, product mix, and product development, promotion, pricing and staffing strategies.

[32] Different dependent variables investigated by Aaby and Salter (1989) comprises of propensity to export, export sales, export problems, exporters vs. non-exporters, level of export, perceptions towards export, export growth intensity and export barriers.

differentials and environmental inspecting practices on employment growth in manufacturing entrepreneurs.

Luk (1996) has classified determinants affecting firm's growth in three main categories including personal attributes, organizational factors and firm level and marketing factors. A successful small firm is found to be affected by personal traits characterized by good skills concerning decision-making, good interpersonal and analytical skills with sufficient entrepreneurial experience with proper education and training. Management characteristics are described by excellent financial management skills, marketing practices, superior production processes, and the ability to stimulate workers. Marketing strategies based on business targeting, product innovation and cost leadership and firm's strategies comprising of firm's image, flexibility and company-customer relationship are the main factors contributing to the growth of small firms.

Duchesneau & Gartner (1990) have identified three categories of factors influencing likelihood of SME success, including firm's strategy, entrepreneurial characteristics, and start-up behavior. According to their research, entrepreneurial characteristics comprising of previous business experience, reducing business risk, exerting effort, outstanding customer response services, communicational capabilities, with clear and broad business thoughts, flexible participative and planning techniques along with adaptive managerial constitution. Steiner & Solem (1988) have explored, that SMEs possessing appropriate entrepreneurial experience, business flexibility, utilizing skilled labor, and possessing of particular competitive advantages have greater chances of success in terms of firm's growth.

Storey (1994) concluded that successful entrepreneur is characterized by a variety of factors concerning their work experience, work incentives, personality traits and entrepreneurial heritage. A growing body of literature has tried to explore the owner/manager characteristics of SMEs differentiating them from economically active population and considered responsible for firm's growth (Barkham et.at, 1996; Duchesneau & Gartner, 1990; Storey, 1994, and Ace & Audretsch, 1989). Thus, there is a general agreement that there is no simple pattern explaining the process of firm's growth (Storey, 1994), rather there exists a complicated combination of interdependent issues, increasing or decreasing the probability of a successful business owner as compared to

others, with reference to entrepreneurial characteristics, the external factors, managerial success and business attributes (Barkham et.al, 1996). Ray (1993) has concluded that the probability of a successful firm was not affected by a fixed set of characteristics but on variety of diverse combination presenting that positive attributes of an entrepreneur might offset his negative attributes.

Chetty and Hamilton (1993) reviewed one hundred and eleven studies to test the framework proposed by Aaby and Salter (1989). According to them, conceptual model of export performance is being supported both by the validity and relative significance of different important factors in each segment of the general model. The inclusion of variables like management control system, perception of competition and use of intermediaries did not improve the performance of model. Firm size is proved to be a causal factor affecting export success.

Styles and Amber (1994) following the conceptual model of export performance proposed a revised hybrid model for future testing by incorporating the concept of relationships in addition to the familiar categories of environment, firm, and strategy and export performance. According to the authors, the relationships and experience are crucial factors and enhanced by objective data and analytical techniques. Key features of the category Relationships participate significantly in building up networks, the association intensity, and the long-term relationship.

Gemünden (1991) developed a conceptual framework by reviewing fifty studies utilizing about 700 factors considered to be influencing the export performance of 9,000 firms operating in eighteen different countries, published between 1964 and 1987. Factors have been categorized as export market characteristics[33], home country[34], managers' characteristics[35], firm level characteristics[36], activities[37], and export success.

[33] Export market characteristics comprises of market potential distance, tariffs, competition and other barriers.

[34] The factors of market size, market growth, and competition and import restraints are categorized under the heading of home country.

[35] Different characteristics with respect to managers include goals, export expectations, education, foreign orientation and personality traits.

[36] Firm level characteristics include size, ownership, industry and export restraints.

[37] The factors including information activity, R&D, product policy, communication, pricing, distribution are being grouped under the heading of activities.

Zou and Stan (1998) tried to improve the framework proposed by Aaby & Slater (1989), and Chetty & Hamilton (1993), initially by adding the factor of external environment, and then by updating the number of articles reviewed. They reviewed 50 articles[38]. Regarding the construction of conceptual framework, the determinants are classified into internal factors[39] against external factors[40] justified by the industrial organization theory.

Leonidou, Katsikeas and Piercy (1998) reviewed 46 empirical studies (published between 1960 and 1995), investigating the impact of managerial factors to facilitate or inhibit miscellaneous exporting dimensions. The managerial characteristics were categorized with respect to two dimensions including objective[41] versus subjective characteristics[42], and then general versus specific characteristics.

Smith et.al, (2002) analyzed the impact of research and development on the export performance of 3,500 Danish firms. Firm's size and age, labor expenditures, human capital and the firm's financial position were taken as major factors influencing export behavior. For analytical purposes, bivariate Probit specifications along with simultaneous model incorporating maximum likelihood techniques are employed. According to the results, the probability of being an exporter and R&D expenditures are found to be positively related to firm age and size. The factor of export orientation is found to be positively depending on the firm's financial solvency.

Wagner (2005) in this paper has considered the importance of comprehensive longitudinal data at the firm to investigate the extent and causes of productivity differentials between exporters and their counterparts in promoting growth and productivity using aggregate data for countries and industries for a long time. These

[38] The reviewed articles were published between 1987 and 1997.

[39] Internal factors include Export Marketing Strategy, Management Attitudes and Perceptions, Management Characteristics and Firm's Characteristics and Competencies supported by the resource-based theory

[40] External factors comprises of Industrial Characteristics, Foreign Market Characteristics and Domestic Market Characteristics.

[41] Managerial objective characteristics with respect to general characteristics involve age group, educational attainment and professional experience and with respect to specific characteristics the factors of ethnic origin, language proficiency, and time spent abroad along with foreign travel are involved.

[42] Managerial subjective characteristics with respect to general characteristics involve risk tolerance, innovativeness, flexibility, commitment and quality and dynamism and with respect to specific characteristics the factors of risk perception, cost perception, profit perception, growth perception and complexity perception are involved.

papers survey the applied empirical strategies and the results were produced, in 45 micro econometric studies with data from 33 countries published between 1995 and 2004. Details aside, exporters are found to be more productive than non-exporters, and the more productive firms self-select into export markets, while exporting does not necessarily improve productivity. A number of important issues that have only been touched upon recently in some studies, and that deserve future research efforts that cover more countries: As if high-productivity firms self-select into export markets, is their high productivity due to an exogenous random shock, or is it the results of a planned strategy to prepare for entering export markets? If exporting improves productivity via technology transfer from international buyers, what are the mechanisms by which this learning from exporting occurs? Which role is played by different target countries of exports for higher productivity as a precondition or result of exporting? To answer these questions, micro econometric research based on large sets of longitudinal firm level data has to be supplemented by field research in firms.

Yang (2006) in this paper has investigated the technical efficiency and scale efficiency, the productivity index and input resource utilization of supported small and medium-sized enterprises (SMEs) in Korea and indexed them using Data Envelopment Analysis (DEA) methodology during 2000-2002. The data used in this research is the management data of 267 enterprises that had received funding to support local small and medium-sized enterprises or other political funds from the government between 2000 and 2002 with the staff scale of 5 or higher. Various kinds of industrial enterprises are included in this analysis, including: manufacturing, construction, tourism and agriculture enterprises. A comparison of the efficiency of enterprises located in the capital region and those located in non-capital regions is made so as to induce the political significance of regional perspective in the global era.

The efficiency index of relatively large-sized enterprises was high, indicating that large-sized enterprises produce more efficiently than small/medium-sized enterprises. Analysis also determined that the technical efficiency index of the enterprises that received other policy fund supports is relatively high as compared to the enterprises with SMEs supporting funds. The efficiency and productivity analysis of an enterprise commonly evaluates the general productivity of an enterprise, or scale/range economy, or

measures the efficiency of an individual enterprise by using the concept of the expense function or production function. This paper provides a good analysis as it ranks industries on the basis of productivity index; it gives government a better overview regarding its priority sectors.

Duenas-Caparas and Maria (2006) analyzed the export performance of food, clothing and electronics sectors operating in Philippines, by employing firm-level data collected by Asian Development Bank (ADB) in cooperation with the Philippines National Statistics Office and the World Bank. The author has employed a modified quasi-maximum likelihood technique to investigate the fractional responses issue. Export performance is taken as dependent variable and defined as export to sales ratio. Different factors including firm age and size, proportion of skilled workers, research and development expenditures share to total sales, and the capital stock ratio to labor cost are included in the analysis as independent variables. In order to investigate the impact of ownership (domestic vs. foreign) and training, dummy variables are being employed. According to the results, the factors of research and development, foreign ownership and training positively affect the export performance of all sampled industries. Capital per worker is found to positively influence the export performance of electronic firms but not in the clothing and food processing sectors. A nonlinear relation between size and export performance is found in all firms, most significantly in the clothing sector. This suggests that as firms expand, they gain in their export performance. However, further expansion after a certain level results in less than the desired outcome in export performance.

Wignaraja (2007) analyses firm-level export performance of clothing enterprises in Sri Lanka. The data are taken from the Asian Development Bank/World Bank investment climate survey of urban and rural enterprises in Sri Lanka, conducted in 2004. Export-to-sales ratio has been used as a measure of export performance which appears as the dependent variable in a Tobit model. Explanatory variables include ownership, firm size, human capital, technological capabilities, and geographical location. The results indicate that size, foreign ownership, technology index and the human capital variables have positive and significant effect on export performance. Similarly a dummy variable for geographical location also turns out to be positive and significant, indicating that firms located close to Colombo have an export advantage due to lower transport costs and

other locational externalities.

Laursen (2008) explored the determinants of firm-level export behavior for Danish industries. The study has employed a data set consisting of 1,873 Danish firms in manufacturing and services using the share of their exports in their total sales as a measure of their export performance. A Tobit model has been used to estimate the regression equation with age, number of employees, and fixed assets as independent variables. The model has also incorporated some variables relating to the source of innovation such as suppliers, customers and universities. The findings support the idea that innovative techniques are determinants of export behavior particularly in relation to customers. Process innovation and employment of suppliers as a source of knowledge for innovation have a negative relationship with export intensity. This has been taken to be the case when Danish manufacturing and service firms have been at a disadvantage in cost-competition.

Yoshino (2008) analyzes that how the different characteristics of African manufacturing firms and the various domestic supply constraints influence the pattern of geographical diversification of their exports. The study uses firm-level data from World Bank Investment Climate Survey (ICS) of the manufacturing sectors of seven Sub-Saharan African countries. The bivariate analysis is performed to explain geographical orientation and market diversification, and the results indicate a positive correlation between export intensity and market diversification measured as the number of export markets served by the firms. Tobit models of firm-level export intensity and market diversification are also used which indicate that the size, foreign ownership, and technology are the dominant factors in explaining firm-level export performance.

Goedhuys and Veugelers (2008) have tried to contribute to the literature on the basis of technological progress and development of the firm in a different manner. By considering a micro-econometric perspective, it examines in a comprehensive manner of the factors that support or impedes firms to introduce new products and processes in the process of firm's growth. The study has employed the data from the World Bank's Investment Climate Survey (ICS) conducted in Brazil in 2003. The Brazilian data set contains information on 1642 manufacturing firms representing a random sample, stratified on the basis of size, location and sector from nine manufacturing sectors

including food industries, textiles, clothing, leather products, chemical products, machinery, electronics, auto-parts and furniture.

Study has grouped major determinants affecting firm's growth in terms of sales growth along with product and process innovation under three important categories including firm level characteristics[43], innovation strategy[44], technological position[45] of the firm in the market, absorptive capacity[46] of the firm and its foreign linkages. The study has conducted a bi-variate probit analysis explaining process and product innovations jointly.

According to the results innovation strategies are mostly based on technology acquisition and through acquiring knowledge embodied in machinery and equipment contributing significantly to enable firms to produce new innovations. Labor force with secondary education is found to be significant for process innovations. Product innovation is found to be more high-skill intensive requiring highly educated workers with university education, highly educated management familiar with computer and internet usage necessary for communicating with market.

Authors have provided an important insight into the course of firm's growth through product and process innovation. Process of innovation is found to be crucial for superior sales growth rates. According to the study, the combination of product and process innovation could yield more cost efficient production systems. Other beneficial effects of innovation can be measured through productivity growth and profitability. The study has also highlighted the importance of financial access to the motivating innovative performance of the firm. International openness operating particularly through competition as motivational device for cost competitive techniques stimulating firm's growth, thus improving innovative performance of the firm.

Coad and Werner (2010) have tried to investigate the growth patterns among firms as suggested by literature. According to the literature, the firm's growth rate distribution is heavy tailed, a stylized fact that is found extraordinarily robust across

[43] Comprise of age and size of the firm in terms of number of employees.
[44] Include firms reporting in-house development, new technology embodied in machinery, firing of skilled personal along with a combination of all three stated factors.
[45] It incorporates level of technology utilized by the firm with respect to the rest of market.
[46] Level of education among the employees of firm, work experience in terms of number of years, utilization of computer and internet services by the firm, and on job training,

different datasets. The most important proposition is that in every industry and in overall economy most firms experience a growth rate of about 0 per cent, while there are a few firms that experience spectacular growth rates. Studies focused on high growth firms reflects that high growth firms operate as central drivers of job creation activities in the economy but that these firms are neither grouped among high technology sectors nor these firms are necessarily small and young.

However, differences among growth rates of firms are not persistent for rapidly growing firms in short run and also do not assure superior progress in the long run. Thus, it is difficult to predict firm's growth rates. Continual differentials of productivity, profitability or innovative capabilities among firms not always explain the persistent differences in their growth patterns.

The process of firm growth can be approximated by a random process after controlling for the size and age of the firms. This can be explained in the sense that although statistical tools applied for growth rates may yield significant results with a low value of R^2 statistic. Even though there exist some type of regularities at the population level of the countries being undertaken, individual firms have characteristic reasons explaining their growth pattern, and it is somewhat difficult to generalize growth patterns across firms. Moreover, there are huge deviations in growth patterns among individual firms in different time periods. The conclusion that firm's growth rates are primarily random in nature is not just because of heterogeneity among firms, but also because of the fact that growth rates have little tendency to be persistence over time and fluctuate a lot for individual firms.

Authors have provided a very fascinating presentation about the work done regarding firm's growth patterns by starting with the main question of how to measure firm's growth. It can be measure in terms of asset growth, employment growth or as sales growth. The authors have emphasized the impact of size and age of firm on firm's growth as explained by Gibrat's law. Among different determinants explaining the process of firm's growth, the factors of innovation, profit, productivity, firm level characteristics, industry level characteristics and macroeconomic variables have been explained with special reference to firm's growth. The importance of fast growing firms regarding

contribution of small firms to job creation has been discussed by identifying high growth firms keeping in view the firm strategies.

De Jorge et.al, (2010) has examined the determinants of firm size by utilizing four primary hypotheses based on the positive relation of entrepreneurs general and specific human capital, entrepreneurs vocation to firm size, influence of entrepreneur's strategy in terms of competitive price, and knowledge regarding competitors' price on firm size and the utilization of location and type of industry as significant variables in explaining size of the firm. Data employed for analytical purposes is based on a sample comprising of 1314 firms operating in fourteen different counties in Argentina in the year of 2002. Firms selected in the sample belong to the sectors of manufacturing, agriculture, construction, and service. For analytical purposes, the technique of Quantile regression estimator has been adopted as a more appropriate methodology to assess different determinants of firm size. Different factors comprising of entrepreneurs age, experience, gender, vocation, educational level, family business, business plan, competitive position of firm in market and different estimated regarding market structure have been investigated in the present study.

The estimated results obtained support the theoretical proposition regarding positive impact of higher degree of general and specific human capital on firm size along with the confirmation of positive influence of motivation on firm size. The explanatory variables related to entrepreneurs characteristics including age; experience, education, and vocation are found to explain variations in firm size. High degree strategic planning and a better competitive market position were found to be positively related to firm size with less representative environmental factors including market estimate, location and sectors belongings of firms.

The importance of resources planning of a company along with its planned behavior has been highlighted in the present analysis from a strategic point of view. Environmental factors should be focused in the future research to explore their impact on firm size and its subsequent growth. The use of longitudinal data for firms can produce more productive results in order to observe the variations in employment growth. As far as policy implications are concerned, the results represent that general public programs

are not capable of increasing firm's competitiveness, instead designing of intervention strategies can yield better results targeting specific characteristics of firm's growth.

Khalid et.al, (2011) in this study has tried to focus on different determinants of employment growth among small and medium enterprises from the cities of Rawalpindi and Islamabad in Pakistan. Data of 131 Small and Medium-size Enterprises (SMEs) has been employed to analyze the impact of different major determinants of firm's growth in terms of employment generation including age of entrepreneur, years of formal education, industrial experience in years, and entrepreneurial experience, entrepreneur's environmental scanning and number of previous start ups. The statistical tool of Pearson correlation has been employed on the basis of information gathered through survey for analytical purposes. Correlation coefficients among different selected variables like number of previous start-ups, entrepreneur's capacity to understand economic environment, experience, age of entrepreneur, education, and business life are calculated with respect to a firm's growth in number of employees reflecting business expansion over the years. According to the results the entrepreneur's age, his experience in terms of number of years and ability to scan environmental are found to significantly and positively associated with firm's growth in terms of employment generation. Whereas, the factors of industrial experience, education of the entrepreneur and number of previous start-ups were not found to be significantly affecting organizational performance.

They have tried to examine the impact of six major factors on the growth of SMEs in terms of employment growth rates by employing simple Pearson correlation coefficients. They have made a good attempt as the empirical research regarding different aspects of SMEs is limited in case of Pakistan. Inclusion of certain other dimension like managerial back ground, technological capabilities, organizational practices and factors that restrict firm's growth could present a more clear representation in this regard. Statistical analytical tool like maximum likelihood estimation techniques can present the impact of a particular factor on the probability of firm's growth in terms of employment opportunities. By encompassing all these factors, a comprehensive direction can induce policy makers to plan for and to promote employment generating opportunities of SMEs in Pakistan.

Kok et.al, (2011) has tried to investigate the association between quantity and quality of jobs provided by SMEs by presenting current situation of SME overall impact on providing 'more and better jobs' in Europe. The study has investigated 27 EU Members and the 10 non-European countries[47] participating in Competitiveness and Innovation Program (CIP) initiated by Enterprise and Industry of the European Commission. The study has utilized data from two different sources including Enterprise Survey 2010 (ES 2010) and the European Company Survey (ECS) 2009 to measure employment quality.

According to the results, net employment in the EU grew by an average of 1.1 million jobs from 2002 to 2010, and 85 per cent of these new job opportunities were being produced by SMEs supporting the argument that SMEs generate more jobs than large enterprises. SMEs were found to register a much higher employment growth rate of 1per cent annually as compared to their large counterparts (0.5 per cent per year). Micro and small firms were found to be involved in more employment generating opportunities by sharing 58 per cent of total employment growth in EU27 countries.

While investigating the impact of firm's birth and death in terms of job creation, about 50 per cent of the firms were found to survive beyond 5 years resulting in creation and destruction of a number of Job opportunities. Employment in firms up to 5 to 10 years old was found to be increased by 1per cent among all sectors of industry in 2008.

The study has also incorporated the impact of economic crisis during 2009 and 2010 on the employment generating capacity of firms in EU27 countries. The factors of total demand, customer payment terms, and acquiring finance were found to be affected by economic crisis exerting negative influence on their competitiveness and innovative capabilities. According to the results, SMEs should be assisted regarding provision of their training needs, because by supporting those in a proper way would yield different results.

The study has provided an important insight regarding different factors affecting the employment generating potential of SMEs in EU 27. The study is exploratory in nature, discussing the results as they are. It could yield a better understanding if any

[47] Albania, Croatia, Former Yugoslav Republic of Macedonia, Iceland, Israel, Liechtenstein, Montenegro, Norway, Serbia and Turkey.

analytical or statistical technique by incorporating all the above mentioned factors and present the results in a quantified way.

Marx et.al (2011) has tried to investigate the likely impact of employment level on relative income poverty by utilizing simulation models. Shift-share analysis is being employed for the employment rate of 23 EU countries experiencing decline in employment generation rate as compared to Europe 2020 target. Data from 27 European countries participating in EU-SILC 2008 survey excluding Iceland, Norway, Estonia and Sweden from the analysis are being utilized for analytical purposes. The study has compared the static results of the shift-share analysis with regression based sophisticated method estimating participation probabilities along with labor incomes to incorporate the share of jobless persons at working age required to achieve Europe 2020 target.

Two sensitivity tests are being conducted by the authors by integrating precedence in employment allocation to unemployed households and assigning low in spite of estimated wages. The study has demonstrated that employment growth is not always associated with lower relative poverty levels. The study has contributed significantly in existing literature by analyzing the impact of employment generation on the relative poverty level. The results presented in this study can be improved by utilizing a micro-simulation modeling like EUROMOD resulting in developed gross-to-net transitions and more explicitly unemployment benefits along with a comprehensive estimation of effects of income dynamics of households on their tax-benefit position.

Adenuts (2011) has explored the role of entrepreneurship in creating employment opportunities, labor empowerment, and poverty reduction among low-income economies. The paper has theoretically proposed an entrepreneurial policy-relevant model to highlight the significance of strategic economic perspective regarding development of an entrepreneurial society. According to the author, entrepreneurship acts as a catalyst for economic development through employment generation and income empowerment, eventually lessening the extent of poverty in any society. In order to promote entrepreneurial culture, governments and other related institutions should adopt functional policies to achieve this objective of welfare improvements.

Entrepreneurship is considered as a motive for innovation, redistribution of income, and technological progress. According to the study in order to reduce poverty,

different policies including motivation of very poor, stabilization of inflation and exchange rates, development of microfinance and venture capital institutions should be followed to reduce poverty. Different regulatory reforms including privatization, trade liberalization, and improved governance are major structural policies supported by governments for economic growth and development. The author has provided important considerations regarding the association between entrepreneurship, job opportunities and poverty reduction. It could yield better understanding if any quantitative method is being employed for analytical purposes.

Geetika and Meenakshi (2012) in their study have investigated different proposals that can develop entrepreneurship and capacity building among the Indian poor. They have focused on those measures those can facilitate the application of different poverty reduction policies. The authors have presented a conceptual model to explore the causal relationship between entrepreneurial actions, poverty alleviation and capacity building by incorporating government, private and citizens' sectors.

According to them, government sector try to alleviate poverty through encouraging entrepreneurship by providing marketing, financial and institutional support and offering different employment schemes. The private sector can be differentiated into social and business entrepreneurs by generating job opportunities and financial sustainability.

While, the citizens' sector contributes in alleviating poverty through functioning of non-governmental organizations, labor unions, community and voluntary organizations, and self-help groups. The authors have focused on the promotion of entrepreneurship as a key factor to alleviate in India by providing an overlapping framework of government, private and citizen Initiatives. According to them, lack of confidence to initiate self employment and deficient awareness regarding the funds accessibility for investment are the major factors affecting poverty reduction measures. Caste based social system can also be considered as a bottleneck restricting entrepreneurial activities. The article has provided a comprehensive sector wise analysis suggesting that neither governments nor markets alone are sufficient to reduce poverty in India. A tri-sectoral approach identifying the association between government, private and the civil sectors can contribute more positively in eradication of the issue of poverty.

A quantitative approach regarding the testing of their proposed framework can add a new dimension in the literature.

Alfons (2013) has investigated the causality direction between export market participation and innovation by utilizing Australian Bureau of Statistics' Business Longitudinal Database from 2004 to 2007 covering about 3000 firms employing up to 200 workers. Firms relating to health, education, Government administration, and utilities have not been included in the analysis. Propensity score matching (PSM) methodology utilized by Becker and Egger (2010) and Damijan et al. (2010) has been applied to investigate the direction of causation between innovation and export market participation. According to the results, the factor of innovation was found to lead the export with little evidence supporting export leading to innovation. Primary sector of Australia comprising of mining and agriculture demonstrated strongest statistical evidence of innovation lead export while the factor of process innovation was found to lead export in case of services sector. Results suggest that the factor of competitive advantage is considered essential for SMEs while entering in international markets. The author has suggested modifying trade liberalization policies initially focusing on comparative advantage and ignoring the importance of comparative advantage.

Love and Roper (2013) have explored the relation between innovation, firm's exporting potential and growth. SMEs characterized with innovation are more likely to export, and more likely to generate growth from exporting than non-innovating firms. According to the study, Internal and eco-system factors are considered important influencing innovation and exporting potential of SMEs. The factors of expertise, R&D, asset and liquidity are found to be of significant importance in determining SME innovation and exports. While the factors of design, management of intellectual property and employees, labor force diversity and other firm related characteristics of family ownership are not found to be stimulating innovation and export base of SMEs.

External factors of targeted supply-side and demand-side policies play a positive role in supporting SME innovation and exporting. For firms of all sizes there is a Strong positive association between innovation, exporting and productivity and/or growth is observed for firms of all sizes, leading to improved business performance. Internal factors affecting innovation and exporting capacity emphasize the significance of different UK

policy initiatives including extended employer ownership pilot, smart awards, innovation vouchers, design leadership program, and knowledge transfer partnerships.

The factors like financial access and strengthening of demand-side forces also influence the innovative capacity of firms which eventually effects their export and growth potential. Government initiatives of Business Bank proposals and Small Business Research Initiative (SBRI) can facilitate SMEs to put up Dynamic Corporation with other firms and educational institutions and universities.

Synergies between SME innovation and exporting suggest the value of Coordination of support mechanisms of UK Trade and Investment and Technology Strategy Board is required to guarantee SMEs provision of appropriate and accessible support regarding innovation and exporting.

Reis and Taglioni (2013) have tried to investigate the major factors affecting the growth and exports at the micro-level indicating the nature of products produces and exported, the population of domestic economy by the firms, success of firms in international markets, and the impact of policy intervention and exogenous shocks on firms. Trade competitiveness of Pakistan has been computed through econometric analysis and descriptive statistics.

The study has presented a comprehensive and in depth analysis regarding Pakistan's export performance for the last ten years, intending to propose logical hypotheses indicating export performance, prospects, and challenges of Pakistan. The study has employed the methodology of decomposition of trade growth margins in order to explore trade competitiveness, emphasizing on four main dimensions of intensive margin[48] of exports, extensive margin exhibiting diversification of products and markets, quality margin[49] and the sustainability margin determining the country's trade competitiveness. The study has utilized the UN COMTRADE database from World Integrated Trade Solutions (WITS) platform. For analyzing sustainability margin, firm-level data is being employed based on customs transactions database for the period 2001-2010, comparing the Pakistan's exports performance to different countries[50] with similar

[48] Indicating the level, growth, and market share performance of existing exports and market share performance.
[49] Indicating the quality and sophistication of exports
[50] China, India, Vietnam and Indonesia are included as peer countries for comparison purposes.

country characteristics of income level, location, size, sector wise constitution, and competing with Pakistan's exports in key international markets. The selection of middle income countries like Bulgaria, Colombia, Peru and South Africa reflect the limited data availability for firm level analysis.

According to the results, Pakistan is characterized with the problems of low quality and sophistication in the export basket and has improved at a sluggish pace as compared to the export basket of India and China. The product space analysis depicted that there were about 103 products registering RCA greater than 1 in both 1993 and 2008 concerning mainly to textiles and garment industry. Even worse, indications coming from the According to the unit values of these products, Pakistan exporters are facing difficulties to match with the quality up gradation at world level. Pakistan has presented positive indication both at products and market level with respect to diversification. With the fact that 65 per cent of Pakistan's exports come from textiles, apparel, leather, and footwear, the share of metals, machinery, electronics and some agricultural products industries is increasing. Pakistan has also shown progress in export of services, but Its value lags behind the peer countries.

Descriptive analysis indicates that in Pakistan few large exporters are experiencing high concentration of exports in their hands. Their dominance has increased over time, coupled with reduced probability of product innovation and experimentation, reducing the ability of Pakistani exports to penetrate in higher growth sectors. According to the findings of the study, Pakistan's export growth can be increased by encouraging export activity and innovation by large exporters and by reducing the sunk costs to initiate an exporting project. The reduction of fixed costs and substantial loads can contribute positively in promoting export sector of Pakistan. Reduction of tariff complexity and expansion at intensive margin facilitated by favorable macro-economic environment ensure good export performance. Strategies relating to the survival and deepening of exporting relationships of the small and large firms can also facilitate export growth through learning and skill acquisition strategies.

Exporting is the main mode of internationalization of small and medium sized enterprises (SMEs) and is also often employed as a growth strategy (Lu and Beamish, 2001). By selling abroad, SMEs broadens their consumer base and thereby expand their

market. In the literature there is a general consensus that the growth rates of employment and output are higher for exporting than for non-exporting firms (Bernard and Jensen, 1999). However, few studies have empirically tested the relationship between export status and growth of SMEs using internationally comparable data.

Little is also known about whether this link differs across industries. By using internationally comparable data this paper investigates the relationship between the export status of SMEs and firm growth. Both employment and output growth is considered, including the variation across industries. The data consists of the Community Innovation Survey 2010 (CIS) for 20 EU countries with about 113,000 observations. The analysis is restricted to SMEs with between 10 and 249 employees. The key question is whether data for a large set of countries confirm that growth rates of turnover and employment of exporting SMEs are higher than for those only active in the domestic market.

Numerous studies have investigated the relationship between the export status and firm growth of SMEs (Wagner, 1995; McDougall and Oviatt 1996; Bernard and Wagner, 1997; Robson and Bennett, 2000; Lu and Beamish, 2001; Becchetti and Trovato, 2002; Yasuda, 2005; Filatotchev et al., 2009; Golovko and Valentini, 2011), with a majority of these studies finding a positive link. However, the majority of these studies are limited to manufacturing firms for individual countries. Furthermore, the results of these studies are difficult to compare because of difference in industry coverage (inclusion of service firms), sample period, measurement of the export variable (export status or export to sales ratio), definition of exports (exports of goods only or exports of goods and services) and treatment of marginal exporters (i.e. export threshold in official trade statistics).

Another striking feature of the literature is that few studies have used internationally comparable firm level data to study the link between exporting and growth of SMEs. An exception is the study of Hessels and Parker (2013) which investigates the relationship between export status and both employment and turnover growth. The data consists of 7,700 SMEs from 18 European countries. The authors find a significant relationship between export status and employment growth. However, the relationship between exporting and turnover growth is not significant when foreign purchasing is accounted for. The CIS data makes it possible to study the link between exporting and

firm growth for both service and manufacturing firms for a broader set of EU countries. Another advantage of the data is that the definition of exporting encompasses both goods and services as well as marginal exporters. Unlike in trade statistics there is no threshold for exports to the EU internal market. The CIS 2010 data are accessible at the Eurostat Safe Centre. Information on turnover and employment is available for the year 2008-2010, making it possible to calculate the average annual change in turnover and employment. The empirical analysis is conducted for the total business enterprise sector and for nine broad industry groups. The firm growth equation is estimated by the robust regression method to account for influential observations.

Labor-intensive industrialization is recognized as important tools for poverty reduction (Sen (1960) and Myrdal (1968)). In recent years the importance of SMEs for the contributions in economic growth and development has been recognized. SMEs are characterized with employment of much more labor force as compared to multinational corporations (Mullineux (1997). SMEs are a major source of potential employment in low income economies and are being considered to be the "engine of growth" for attainment of growth objectives in developing nations (Advani, 1997; Feeny and Riding, 1997).

Arif and Bilquees (2007) have analyzed the incidence of poverty both in chronic and transitory terms in Pakistan with special reference to rural and urban background. The data for this study has been taken from the PSES (Pakistan socio-economic survey), a panel survey of individuals and households designed to analyze the change in Pakistan's social and economic structure with the help of utilizing both retrospective data collection and prospective panel techniques in 1998-99 and 2000-01 respectively. The baseline of the PSES (or Round I) was conducted in 1998-99 to 3564 households in rural and urban areas collectively while the second round was fielded approximately two years later in 2000-01 with the aim of investigating the same sampling unit, interviewed earlier in the PSES-I with the overall attrition rate of 22.2 percent between the two rounds, leaving the sample size to 2774 in 2000-01 from 3564 in 1998-99. The analysis was performed in two stages first, the degree of chronic and transitory poverty is measured by analyzing the data from two rounds of PSES indicating that the more than one-fifth of the households were chronically poor with the existence of incidence of poverty more in

rural households as compared to urban households. Then the multinomial logit analysis is employed to examine the socio-economic factors related to the changes in poverty status between the two rounds of PSES under consideration.

Three types of explanatory variables involving individual characteristics of the head of household i.e, age, sex, literacy and employment; household characteristics including size of family, dependency ratio, farm status, ownership of housing unit, electricity connection, livestock and land ownership, type of cropping system, access to safety nets like zakat and remittances both from domestic and overseas sources and credit; and community variables i.e., residential place (rural or urban) and province all measured on the 1998-99 basis are found to have a significant impact on the incidence of poverty both in chronic and transitory terms.

According to the study, poverty reduction policies should be designed on the basis of poverty dynamics rather than on poverty trends. As there are evidences of entering of Pakistan into demographic transition phase, policies should be made to invest proper in education and health of children in order to enjoy the benefits of demographic transition both in terms of high economic growth and decline in poverty trends.

The existence of transitory poverty in both rural and urban areas reveals that the productive employment opportunities should be enhanced on priority basis. Improved and multidimensional education and health policies and positive efforts of enhancing rural industrialization along with proper credit facilities for poor can contribute in a positive manner to reduce poverty incidence. The study has added a new dimension to investigate existence of poverty over a period of time and find out the major determinants contributing towards poverty both in the rural and urban areas. It can be more helpful if such surveys are conducted in a periodic manner to design policy options for a particular area.

Wider economic and socio-economic objectives such as poverty alleviation can be achieved by developing the SMEs (Cook and Nixon, 2000) because of the fact that low cost is associated with job creation in SMEs (Leidholm and Mead, (1987) and Schmitz (1995). Since the SMEs are labor intensive and these type of firm are more likely to be based in rural areas and smaller urban areas hence the development of SMEs may be helpful for the economic satiability, growth and employment. The dispersion of these

enterprises in these areas and their labor intensity may be very important in equal distribution of income. The development of SMEs helps the economies to grow in the long run these enterprises improve domestic market efficiency and uses the scarce resources productively (Kayanula & Quartey, 2000).

Siddiqui (2009) has explored the various socio-economic factors affecting prospect of poverty in Pakistan utilizing primary data from Pakistan Social and Living Standards Measurement Survey (PSLMS) 2004-05 by employing the advanced statistical models of Maximum Likelihood such as Probit, Logit and Extreme Value (Gompit) Models. For empirical testing of different poverty indicators, dummy variables in respect of effect of education, provincial effect, regional effect (rural and urban), gender specification, age factor, nature of occupation, and many other socio economic indicators were computed. According to the author, with an increase in educational level from matriculation onwards, the likelihood of being poor decreases considerably. Regional effect of residing in an urban vs. rural areas reduces the chances of being poor as it helps them to enhance their standard of living by achieving better earning, health and educational opportunities. The results about age structure are in consistent with the hypothesis that young people have more energies, potential, adaptability and capabilities to cope with the structural changes in order to improve their living standards leading to a negative effect on poverty. In the case of nature of occupation, the possession of skills or self employment significantly reduces the chances of being poor. Similarly the possession of a housing unit, availability of health, infrastructural facilities, inclusion of mutton in the basic food basket, high male-female ratio contributes significantly in reducing the incidence of poverty.

Study strongly recommends policy makers to increase educational opportunities as vocational training, availability of health facilities, infrastructural development, launching of projects proving job opportunities to both unskilled and skilled labor force, redistribution of resources from non-poor to poor and to provide housing facilities to poor in order to alleviate poverty on grass roots level.

This study is different from others as it identified aspects of poverty along with empirical testing and statistical proof by employing extensive poverty indicators. The McFadden R-squared computed by the author in all the three models is very low

implying the replacement or addition of other determinants of poverty. The inclusion of other important indicators of poverty can help in obtaining more significant results and help in designing appropriate policy options. A very important determinant of poverty in the form of inflation should be included in the analysis as it reduces the purchasing power of poor and adds miseries to their lives.

Mukras (2003) suggests set of policy recommendations for poverty alleviation through strengthened SMEs. Strengthened SMEs generate employment and economic growth in the economy. The proponents of pro-SMEs argue that entrepreneurial and innovative ventures in SMEs help to improve growth of the economy and reduce the poverty levels in developing economies (Beck et al., 2004). Small scale enterprises increase competition and entrepreneurship in the economy and result in economy wide benefits in efficiency, innovation and growth in productivity. Gebremarian et al. (2004) analyzing the relationship between development of small scale business, growth and incidence of poverty in West Virginia found a strong negative relationship between small scale business and the incidence of poverty.

Jamal (2009) has attempted to quantify the extent of multidimensionality of poverty in Pakistan in terms of FGT indices involving headcount ratio, poverty gap, and severity of poverty. The different indicators employed for statistical inference are country-specific and depends largely on development level, the dimension of poverty, nature of social segregation and availability of household data. For analytical purposes, indicators of financial poverty[51], human poverty[52], poor housing[53] and deficiency of physical assets[54] are combined to construct a composite index of poverty capable of measuring different dimensions of deprivations. Both the income and non-income indicators are developed on the basis of Household Income and Expenditure Surveys for the years 2004-05 and 2000-01. Multivariate statistical tools Involving Factor Analysis and Cluster Analysis are employed for the construction of the composite index to determine the threshold level of multidimensional poverty. On the basis of household

[51] Poor Households expressed in terms of low per capita household consumption.
[52] Involves Illiterate Head of Household and Spouse with no child of primary and secondary age is in school.
[53] Includes Households with only one room, Inadequate roof structure, wall structure, no electricity, inadequate water, no telephone connection (landline or mobile), using inadequate fuel for cooking (wood, coal, etc.) and without latrine facility.
[54] Households with no physical assets, and no housing ownership.

data for 2004-05, is was estimated that about 54 percent of the population in terms calculations of composite index incorporating different socio-economic dimensions is found to be poor in contrast of 30 percent of estimated one-dimensional income poverty for the same year. The poverty was found to be more multidimensional in rural areas (69 percent) as compared to urban areas (21 percent). In order to verify the reliability and inter-temporal sensitivity of results, multidimensional composite poverty index was also calculated for year 2000-01. A number of studies have employed different measures to measure and quantify the extent of monetary poverty in Pakistan. The author has attempted to evaluate welfare of households in different dimensions in Pakistan. It is an important study as the author has developed a composite index to measure multidimensional poverty. The author has involved all the major factors of poverty in constructing the composite index except demographic structure of household involving dependency ratio, female-male ratio and labour participation rates etc. and availability of health and infrastructural facilities. The author has included the educational factor only in terms of literacy not on the basis of availability of educational facilities in their localities or not. By incorporating all these discussed dimensions a more composite index of poverty can be calculated that can portray a more real picture of poverty in Pakistan.

Chaudhary et.al (2009) have attempted to analyze the impact of different economic[55], social[56] and demographic characteristics[57] of households on poverty by utilizing the primary data collected from 100 households of southern Punjab village of Betti Nala in Tehsil Jatoi located in district of Muzaffargarh in the year 2006. The authors have employed two distinctive approaches comprising of bi-variate and multivariate analysis. A bivariate analysis on the basis of FGT indices can be used to examine the correlative attributes of the rural poverty profile and examines the presentation of different characteristics of poverty of various rural households.

According to the authors, the employment of first technique suggests that the characteristics of low level of landholdings, household size of 7-8 members, low level of

[55] Economic indicators of households include employment, income, consumption spending and household property and assets involving possession of landholdings, livestock and physical assets.

[56] The social indicators selected by the authors involve information about health, education, and shelter of the households.

[57] The demographic characteristics of the households involve household size and structure, dependency ratio, female-male ratio and age and sex of household head.

educational attainment, high dependency ratio, high female-male ratio, low work experience of household head are associated with highest incidence, severity and depth of poverty.

In the second approach of multivariate econometric analysis, first a multivariate income regression and then a multinomial logit model are employed on the potential determinants of rural poverty comprising of different socioeconomic and demographic characteristics of rural households. In the first stage of income regression analysis, the characteristics of household size, dependency ratio, female-male ratio of workers, age of household head and persons per room were negatively related to a household's income per capita and thus positively associated to incidence of poverty. Whereas, the level of educational attainment, participation rate, possession of assets like livestock and landholdings were positively related to the income level of households and negatively associated to poverty incidence. In the analysis of second alternative technique of multivariate logistic regression models shows that size of household, dependency ratio, the presence of a female household head, and residence in a mud house were found to be positively and significantly correlated with the probability of being poor.

According to the study, policies should be made to alleviate poverty on grassroots-level by increasing both farm and non-farm rural real incomes through creating new employment opportunities, and the increased provision of formal and informal education and health facilities, improved sanitation conditions, safe drinking water, better housing facilities and a range of other related social and welfare services. The authors have incorporated the possible analytical techniques ranging from bivariate correlates to multinomial logit analysis and yielded more or less consistent results from all techniques. The authors haven't mentioned about the population of investigated village of Betti Nala giving no inference about the credibility of chosen sample as a representative of the entire village leaving some constraints about the generalization of the obtained results.

Beck et al. (2005) exploring the relationship between SMEs, growth and poverty find a strong and strong relationship between the importance of SMEs and growth in GDP per capita. The study could not find enough evidence of the poverty alleviating impact of SMEs in a sample of 45 countries. However, it has been deduced that SMEs are

labor intensive so growth in these enterprises increases employment more than the large scale industries' growth (Snodgrass and Biggs, 1996). Aina and Amnes (2007) suggest more effective and fully funded policy program for the development of SMEs in Nigeria, for generating employment opportunities for economic growth, to empower the poor and deprived. The adoption of growth strategies that helped to promote labor-intensive industries and SMEs promoted high levels of growth with low levels on income inequality in Republic of Korea and Taipei, China during 1950s to 1990s. The absorption of rural surplus labor and reduction in urban unemployment due to establishments of these small and medium enterprises helped these economies to growth with low inequality. The People's Republic of China, though, has shown robust and high levels of growth but income inequality increased during last three decades. It has been suggested that the unification of labor market and encouragement of SMEs, more labor-intensive development policy, for better growth and more equal distribution of income in China (Li and Lou, 2008).

Bogale and Korf (2009) have provided a disaggregated household survey and to investigate community and household level aspects affecting the probability of a household in the studied area to fall below the poverty line at a specific point in time. Sample of 216 households is being employed in the present study based on a household survey conducted in three districts[58] of eastern Ethiopia during 2003 and 2004. The technique of household expenditure has been utilized as an affective measure of household welfare in the present study because of the fact that it can capture household's consumption capabilities in a better way.

Three major methodological issues are being investigated in the present poverty analysis concerning to the problem of determining an appropriate poverty line differentiating poor from non-poor, construction of an appropriate index of poverty, identification of a suitable econometric technique to evaluate the correlates of poverty. The ordered Probit model is being employed to investigate the positive or negative impact of an independent variable on the probability of being poor by using Maximum Likelihood Estimation (MEL) techniques. Fifteen different factors relating to the demographic, educational and rural background of the households are included in the

[58] The three districts are Babile, Kersa and Kombolcha.

study. The factors of age of household head, non farm income, proportion of irrigated land owned, active participation in productive and social local level institutions and living in Kombolcha and Kersa districts are found to be positively associated with household well-being, thus reducing the probability of being poor. Whereas, the size of household in adult equivalent and active membership of natural resource related local level institutions are found to be negatively correlated with the probability of being non-poor. According to the findings of the study poverty is found to be location-specific, access to irrigated land and non-farm income reduces the probabilities of being poor and association in networks is found to be significantly and positively associated with the probability of being poor.

Thus it indicates the role of endowments with reference to market access and comparatively improved agro-ecological circumstances can be considered as essential factors in increasing household welfare and ultimately reducing the chance of being poor. Entitlement failure is found to be relating to increase the probability of a household being poor.

Authors have made a significant attempt while portraying a poverty profile including demographic, educational and economic characteristics of surveyed households. A significant improvement in current poverty analysis is the role of effective access to different types of local level organizations and networks referred as social capital as a covariate to household poverty. Inclusion of these types of covariates can lead to a new avenue towards proper policy implications and thus dealing appropriately with the problem of poverty.

Awan and Iqbal (2010) have presented a poverty profile at city level by presenting a detailed elaboration about the extent and severity of poverty in the city, the provision of access to public services along with other determinates of urban poverty. Thus, adding positively towards effective policy measures targeting poverty. The city of Sargodha is being selected to examine the urban poverty and its determinants. Primary data employed for analytical purposes is collected under the joint survey of University of Sargodha (UOS) and Pakistan Institute of Development Economics (PIDE) Islamabad in May 2008. Sample of 330 households is being examined to explore the major determinants of urban poverty, including demographic features of the household,

household income, expenditure profile of household including food items, energy and utilities, housing, non-food expenditures like clothing, footwear, education, and medical related expenses. In this study the author has attempted to quantify the extent of multidimensionality of poverty in Sargodha city in terms of FGT indices involving headcount ratio, poverty gap, and severity of poverty on the basis of three different poverty lines[59]. These poverty lines are being employed after inflating it with CPI for the year 2007-08 with respect to per month per adult equivalent. Socio-economics analysis of the data illustrate that educational level of a household, size of the family, occupational nature and provision of public amenities contribute significantly towards the poverty status of a household. Poverty incidence was found to be lowest among government employees and highest among the daily wage worker. A multinomial logit model is being employed on the potential determinants of urban poverty comprising of different socioeconomic and demographic characteristics of selected households.

The results indicate that education[60], occupational experience (measured in years) and public services[61] are found to be negatively associated with the poverty status of individuals. The provision of public services including education (both formal and informal), programs helping poor to manage risk, formalization of the informal sector are found to be essential for poverty reduction.

Authors have presented an important addition to existing literature, as most of the studies are based on measuring aggregate poverty. While current study is based on the estimation of extent, nature and severity of poverty in a single city of Sargodha. Authors have made utilized major determinants of urban poverty including household size, nature of occupation, access to basic amenities of life and number of years in current occupation. A more pronounced poverty profile can be presented by adding other important variables like, female male ratios (members and workers), dependency ratio, nature of housing structure and access to safe drinking water etc.

Anyanwu (2011) has examined poverty in Nigeria in the areas of Abia, Anambra, Ebonyi, Enugu, and Imo States by employing 1996 National Consumer Survey data set.

[59] These involve planning Commission of Pakistan, Anwar (2006) and Qureshi and Arif (2001).
[60] Comprises of the categories of middle, matriculation, intermediate, bachelor, professional education
[61] Basic amentias of life included in the study involve provision of Sui gas, telephone, water supply, sewerage facilities.

Along with the utilization of FGT indices, binary Logit model is being employed to determine the probability of being poor. According to the results, the proportion of the population in Igbo States' living below poverty line was found about 55.1 percent in 1996, an increase from 40.9 percent in 1992. The poverty depth was estimated as 21.6 percent in 1996 exhibiting an increase from 16.2 percent in 1992. The severity of poverty grew from 8.7 percent in 1992 to 11.4 percent in 1996. Also, incidence of poverty has experienced an increase between 1992 and 1996, from 38.3 to 49.2 percent and 43.3 to 58.8 percent in both urban and rural areas respectively.

Rural poverty in Igboland was found to be more severe, widespread and deeper as compared to urban poverty in 1996. Increases in the age of household head, farming occupation were found to be significantly reducing the provability of being poor in Abia State. Whereas, household size, rural location in Anambra State, gender of the household head are the most important factors increasing poverty in Igboland but the factor of education was found to be insignificant in the present analysis. According to the study, policy measures including the efforts to reduce family size, geographic targeting of poverty, investment in agriculture sector, provision of farm and non-farm employment opportunities, gender-based poverty interventions among female-headed households along with the reorientation of education system can provide an avenue to solve this problem. Authors have provided important insight towards the understanding of poverty in Nigeria. In addition to the poverty determinants being considered in the study like sector, gender, household size and its composition, educational attainment and the profession of household head, inclusion of other factors relating to the socio-economic conditions of an household like participation rate, access to safe drinking water, nature of sanitation system, access to health facilities, nature of housing structure can present a poverty profile in much better and pronounced manner.

2.3 Conclusion

In conclusion, principal limitations of the existing literature on the export performance are outlined as follows. Literature regarding behavior of SMEs towards process of internationalization and export propensity is abundant, with few studies focusing specifically on small firms. Moreover, results presented by different studies are largely influenced by the choice of different business segments and geographic areas,

methodological approaches, operationalization of different measures, construction of different factors, data analysis and the measure of the export performance. Despite the fact that many factors have been investigated in the course of internationalization by researchers, there are still many areas to be explored. The impact of innovation the export performance of firms has been investigated directly without considering the endogenous relationship of the two variables. Moreover, majority of studies have focused on the factors facilitating the firms to enter in global market, without giving much attention to factors restricting firm's to participate globally.

On the basis of presented literature review, factors are identified affecting the export performance of SMEs. The literature has elaborated different factors of export performance documented by various researchers in different publications to build up a comprehensive framework for understanding determinants of export performance. The present study is planned to investigate the impact of firm level characteristics, technological and commercial capabilities along with different factors hindering firms to participate in international markets.

Chapter 3

Theoretical Framework

The major aspect of Pakistan's economic development policies has always been the maximization of output growth, with little emphasis on the issues of widespread poverty, socioeconomic differentials, and inauspicious demographic issues. In spite of high rates of economic growth along with steady improvement in major macroeconomic indicators, it has failed to trickle down to the Pakistan's poor.

SMEs are characterized with provision of low cost employment opportunities. Poverty level can be reduced by providing job opportunities to destitute. From a worldwide perspective, SMEs are recognized as engine of economic growth, innovativeness and expansion of industrial linkages. In addition they contribute towards resource mobilization, and equitable distribution of income, promotion of craftsmanship, egalitarian structure of society and development of an entrepreneurial culture. SMEs are also instrumental in skill acquisition through a system of informal apprenticeship by providing training ground for up gradation and skills development.

Due to globalization, transition and developing countries face major challenges for strengthening their human and institutional capacities to take advantage of trade and investment opportunities. While governments make policies to remove the supply-side bottlenecks in the trade and investment areas exerting direct implications on the economic growth potential of developing countries like Pakistan. SMEs play a key role in developing countries, constituting a major source of employment and generate significant domestic and export earnings. As such, SME development emerges as a key instrument in poverty reduction efforts through skill acquisition and reinvestment of foreign exchange earnings. Globalization and trade liberalization have ushered in new opportunities as well as challenges for SMEs. Presently, only a small part of the SME sector is able to identify and exploit these opportunities and deal with the challenges.

This chapter elaborates different variables describing the theoretical foundations required for the testing of proposed hypotheses. Development of such a framework facilitates hypotheses formulation for the testing of relationship between different factors and exporting and growth status of Light Engineering units of Gujranwala, Gujarat and

Sialkot districts. It also incorporates operational definitions of determinants influencing the export and growth performance of small firms along with well being of their employees in terms of poverty reduction.

3.1 Factors Affecting Firm's Export Performance

3.1.1 Firm Level Characteristics

The study focuses mainly on the role of firm-specific factors associated with the export performance. According to the literature, the firm specific factors are crucial both for building competitive advantages[62] and recognizing economic rents[63]. Literature[64] suggests different reasons for firm's differential within industries (Rumelt, 1991) according to their performance (Cool & Schendel, 1988), the adoption of technological and corporate policies (Lefebvre et.al, 1997), along with the utilization of different technical expertise (Davies, 1979; Helfat, 1994, and Baldwin & Rafiquzzaman, 1998). The firm-level determinants of export performance have been investigated extensively (Chetty & Hamilton, 1993) and encompasses a variety of different factors regarding the significance of firms' demographics (Wagner, 1995) and the entrepreneurs organizational perception (Bijmolt & Zwart, 1994). In this section, firm level characteristics, along with their consequent impact on export behavior are discussed as follows.

3.1.1.1 Firm Size

Among the structural factors, the firm size is considered to be the most debated in the literature. The conventional hypothesis that large firms have greater chances to compete globally is found to be significant in different studies (Chandler, 1990, and Ogbuehi & Longfellow, 1994) but a number of empirical studies have established a negative or no relationship between firm size and exports (Calof, 1993). The difference in the results can be attributed to the non-linearity of the relationship between two variables (Lefebvre et.al, 1998). Moreover, in the process of export, firm size plays a significant role only up to a specific level (Lefebvre et.al, 2000)[65]. The dominant significance of relative size other than absolute size also explains differences in the results between size

[62] Amit & Schoemaker, 1993.
[63] Jacobson, 1988, and Hansen & Wernerfelt, 1989.
[64] The mentioned studies also support the resource based view of the firm (Wernerfelt, 1984; Grant, 1991, and Peteraf, 1993).
[65] Firm size is found to significant only during the early stages of internationalization in case of Italy, Spain, Australia, Japan and Denmark (OECD, 1997).

and exports relationship. The present study will investigate that whether firm size significantly affects the export performance of light engineering units.

3.1.1.2 Firm Age

The relationship between age of a firm and its export potential has been frequently investigated in the literature. Empirical results suggest conflicting results regarding the relationship between firm age and exports. Established firms on the basis of accumulated knowledge[66] and strong capabilities have greater chances to penetrate in the foreign market. On the other hand, mature firms can behave more rigidly leading to competence traps[67], while younger firm's can act in a more practical, aggressive and flexible manner (Lefebvre et.al, 2000). Some studies do not provide any empirical evidence to support any correlation between these two variables (Ong & Pearson, 1982, and Reid, 1982), some have suggested a positive correlation (Welch & Wiedersheim-Paul, 1980, and Abbas & Swiercz,1991), while others have confirmed a negative relationship between age of a firm and its export potential (Kirpalani & MacIntosh, 1980 and Ursic & Czinkota, 1984). The study is intended to analyze the significance of firm age on the export performance of light engineering units

3.1.1.3 Manufacturing Status

More established firms depend on domestic SMEs for the provision of components and subsystems used as inputs in their products. It is therefore assumed that contractors will experience more direct exports as compared to subcontractors (Lefebvre et.al, 2000). Purchasing from local SMEs through subcontracting and incorporating other local units are considered as a major factor for export competitiveness (Porter, 1990). Subcontracting can be measured by the value of industrial services purchase from other firms (Wengel & Rodriguez, 2006). Subcontracting arrangements between exporters and many subcontractors has been investigated in case of Indonesia (Poot et.al, 1991; Sandee et.al, 1994; Klapwijk, 1997, and Sandee & Ibrahim, 2002). The difference between contractors and sub contractors is important for the investigation of export performance of SMEs, because of the fact that contractors are more capable to experiencing direct export sales as compared to subcontractors SMEs (Lefebvre & Lefebvre, 2001). Per cent

[66] Baldwin & Rafiquzzaman, 1998.
[67] Leonard-Barton, 1992.

age of sales on the part of subcontractors significantly diminishes the exporting probability and the firm's export shares (Sterlacchini, 1999). The present study is going to investigate the significance of manufacturing status (contractor vs. subcontractor) on the export performance of the firm under consideration.

3.1.1.4 Trade Unions

Several SMEs are not associated with any type of trade union but some have affiliation with different trade unions. Affiliation with trade unions affects the firm's performance as strikes are found to have a negative impact on export performance (Greenhalgh et.al, 1994). Affiliation with trade union and their effect on export performance requires more investigation. The existence of trade unions is not related to the probability of being exporter (Lefebvre et.al, 2000). In case of Pakistan there are different types of trade unions, but as far as experience of SMEs is concerned, two types of trade unions are considered to be important. They can be classified as area wise trade union and product wise trade union. Affiliation with trade unions is not found to be related with the probability of being involved in exporting process for both larger and smaller SMEs. Affiliation with trade unions could raise factors relating to production costs does not appear to be hampering the exports earnings (Lefebvre et.al, 2000).

In the resent study the concept of trade unions is concerned only as employer associations. In Pakistan the types of associations are differentiated on the basis of products as all Pakistan fans association or area like rail bazar organization.

- **Affiliation with Area Wise Trade Unions**

Area trade union can be defined as all types of firms in a particular area are affiliated with that trade union. In Pakistan about 90 to 95 per cent of firms relating to different industries located in a particular area are found to be associated with area trade unions. These types of trade unions are formed to deal with local problems of the firms as infrastructural, administrative and organizational ones. They are found to be a success in case of dealing with government with different issues and safeguarding the interests of their members. The impact of affiliation with area based trade unions is going to be established with the firm's export performance in this study.

- **Affiliation with product wise trade unions**

While in product wise trade unions, all the firm relating to a particular industry are the members of that trade unions. As there are surgical instruments manufacturing association, fans association, water pumps and motors trade unions etc. In contrast to area wise trade unions, the degree of affiliation with product associations is much less in case of the studied area[68].

3.1.1.5 Average Revenue

A bidirectional causal relationship is found to exist between successful export business and generated revenue as it provides firms with more resources to invest in R&D and innovation processes (Huang et.al, 2008). Economic internationalization was found to exert modest direct effect on SMEs, as small numbers of SMEs were actually benefited from internalization with respect to the development of their markets and revenues per month (Kokko & Sjöholm, 2004).

Empirical evidence suggest that productivity was found to be high among export-oriented SMEs as compared with non-exporting SMEs, as measured by the total revenue per worker per SME and total profit per worker per SME. Revenue per month gives an important indication about the financial status of the firm and also towards its export potential. Along with other traditional factors affecting export performance of SMEs, significant determinants of export-oriented SME performance are expressed in terms of revenue and revenue growth (Trung et.al, 2008). The impact of average revenue on firm's export performance is analyzed in the present study.

3.1.1.6 Average Wage

Wage bill of a firm reflects the composition of skill of the workforce, implying that the average wage is a skill composition adjusted wage rate (Bhavani, 2001). Skills (average wage) and the contribution of quality control manpower in employment affected the exporting of Sri Lankan engineering and clothing firms (Wignaraja, 1998 and 2007). Exporters are generally found to be more productive, larger in terms of employees, capital intensive (Delgado, Farinos & Ruano, 2002) and characterized with higher wages as compared to non-export firms (Girma et.al, 2002). Average wage can be employed as

[68] The studied are comprises of Gujranwala, Gujarat and Sialkot districts.

a proxy for human capital, as it varies with the skill level (Gabbitas & Gretton, 2003). Labor intensive products characterized with higher wages could reduce the export competitiveness and thus ratio of exports to production. Higher wages might reflect higher skills and productivity might also be reflected by higher wages and ultimately higher likelihood of exporting (Wengel & Rodriguez, 2006). The hypothesis that firm's with higher average wage are more likely to penetrate in export markets is going to be investigated in present study.

3.1.1.7 Initial Investment at Start of Project

Investment at the start of the project is considered to be an imperative factor affecting the export performance of small firms, because of the fact it provides a clue regarding the financial stability of the firm. Moreover, it becomes much easier to estimate the rate of growth of the firm over different time periods. Therefore impact of the initial investment is being included in the analysis to investigate its impact on the export performance of surveyed units.

3.1.2 Technological Capabilities

Literature relating to innovation and learning processes in developing countries highlights the importance of acquiring technological capabilities as a major determinant of firm's export potential (Lall, 1992, and Bell & Pavitt, 1993). Literature[69] motivates the utilization of imported technology affectively with the help of different firm-specific factors concerned with building technological capabilities. It suggests that in order to utilize imported technologies productively, firms have to invest in research and training (Lefebvre et.al, 2000). Capabilities can be defined as firm's capacity to organize resources, where resources are referred as stock of existing factors that is owned by a particular firm (Amit & Schoemaker, 1993). As innovation depends on technological and critical capabilities in areas of distribution and marketing (Burgelman et.al, 1996), it also included in the commercial dimension.

Technological capabilities can be defined as "the firm's existing capacity and its future probability to utilize firm-specific technology to resolve technical problems and develop the technological functioning of its production process along with its finished products" (Nicholls-Nixon, 1995). Small exporters have capabilities to compete in

[69] Pietrobelli, 1997; Ernst et.al, 1998, and Rasiah, 2004.

foreign markets on the basis of their technological capabilities (Kohn, 1997), but a negative relationship between technology and exports has been observed (Sriram et.al, 1989), while no significant relationship was found between two variables (Reid, 1986), providing justification for further research.

3.1.2.1 Innovation

Amongst technological capabilities, expenditures on R&D enables firm not only to innovate, but also facilitate them to incorporate external technological knowledge in an improved manner (Lefebvre et.al, 2000). R&D is therefore considered as one of the major factors affecting firm's export performance. Positive relationship between exports and R&D in small firms has been established (Ong & Pearson, 1984). Technological innovation have the ability to shift a country export demand curve outwards (Grossman & Helpman, 1991, 1995). Innovating firms have incentives to diversify their products as well as markets to get higher returns from their investment (Teece, 1986). Innovation helps the innovating firms to acquire and maintain its competitive advantage both in domestic and global markets (Lefebvre et.al, 1998). Therefore, a positive relationship is expected to run from innovation to export.

Empirical results from earlier studies did not provide any reliable results while investigative the relationship between innovation and export performances in case of small firms, because the process of innovation in small firms seems to have imprecise boundaries i.e., a lot of factors contribute to the process of innovation making it difficult to circumscribed (Nassimbeni, 2001). In case of small firms, specific R&D is mostly exogenous and represents the modifications of existing products and processes. Therefore, the traditional measure to evaluate innovative capacity of the firm as R&D expenditures may yield insignificant results. However, different aspects of technological innovation like product innovation, process innovation and major improvements in existing products are taken into consideration in the present study to analyze their impact on firm's export performance.

- **Introduction of New Product**

Literature suggests the importance of capacity to innovate products[70] in relation to the export performance of the firm. The strength of product in terms of uniqueness and quality comprises an important element for success in export activities (Styles & Ambler, 1994). Empirical support to this argument has been provided by different studies (McGuinness & Little, 1981; Burton & Schlegelmilch, 1987; Madsen, 1989, and Cavusgil & Kirpalani, 1993). While investigating the impact of firm's technological capacity on its export intensity, innovation inputs expressed as R&D spending and outputs in terms of product innovations and patents are found to be positively and significantly affecting the export intensity in context of Spanish manufacturing firms (Lo´ pez-Rodrı´ guez & Garcı´ a-Rodrı´ guez, 2005). Limited resources and capabilities prevent small firms to introduce product innovation in many industries (Verhees & Meulenberg, 2004 and Han et.al, 1998). Incremental variation along with alteration of product material, design, and functionality rather than a drastic change are related to product innovation in small businesses (Nassimbeni, 2001). In order to have success in foreign markets, small firms mostly rely on product innovations (Sterlacchini, 2000). The impact of the product innovation on the firm's exporting decision is going to be investigated in the present study.

- **Introduction of New Process[71]**

Introduction of new processes involves purchases of specialized machinery, introduction of quality control, outsourcing and introduction of information technologies (Alvarez, 2004). In the present study process innovation is just concerned with the purchase of specialized machinery, introduction of quality control and outsourcing. Process innovation in addition to product innovation can contribute positively toward export performance of a firm (Lachenmaie & Wößmann, 2006 and Becker & Egger, 2007). While on the other hand, small innovative firms have more chances to serve the domestic market as compared to foreign market, because the cost of entering the foreign

[70] It involves technological improvements, introduction of new product, changes in designing and packaging (Alvarez, 2004)

[71] It comprises of purchases of specialized machinery, introduction of quality control, outsourcing and introduction of information technologies (Alvarez, 2004)

markets is higher for small firms as compared to large ones (Wakelin, 1998). R&D expenditures contribute to the success of firms practicing an innovative strategy in terms of product and process innovation (Lee & Giorgis, 2004). Process innovations are more frequently associated with acquirement of new machinery along with introduction of information systems into production design, development, and logistics, infrequently leading to new patented processing solutions. The capability of process innovation could be attained through factors including investment in human capital and technical partnership with external partners (Lefebvre et.al, 1988, and Freeman, 1991). The effect of the process innovation on the firm's exporting decision is going to be analyzed in the present study.

- **Major Improvement in Existing Products**

The capacity to improve existing products[72] along with a technically oriented work force helps firm to enter into the foreign market and compete effectively on the basis of cost competitiveness (Lefebvre et.al, 1988). In contrast to previous studies mainly focusing on new product innovation, or combination of product and process innovation (Lachenmaie & Wößmann, 2006 and Becker & Egger, 2007), factor of major improvements in existing products along with product and process innovation has been introduced while investigating role of innovation on exports of Vietnam's SMEs (Anh, et.al, 2007). Therefore impact of the major improvements in existing products is being included in the analysis to investigate its impact on the export performance of surveyed units.

3.1.2.2 Investment Strategy

Investment strategy adopted by the firm provides important insights regarding its production processes and future innovative plans regarding its exporting decisions. An investment strategy comprising of six components including investment in capacity building, in replacing old equipment, in enhancing productivity, in improving output quality, in producing new product and investment for other purposes has been introduced while investigating role of innovation on exports of Vietnam's SMEs (Anh et.al, 2007).

[72] It involves introduction of strategic planning, re-engineering, improved and specialized teamwork (Alvarez, 2004).

The present study is going to analyze the impact of investment strategy on the firm's potential to export.

3.1.2.3 Owner's Perception in Starting up Export Process

Differences in export's performance can be explained by the variation in degree of difficulties faced by small firm in their international operations. Entrepreneurs while initiating a new project may face different problems, for instance, they may face credit access problems in the financial market. Market acceptance and lacking of skilled labor are also considered as major problems faced by small firms while starting up new projects, forcing them to leave the international markets[73].

- **Financial Problems**

In order to enter and survive in the international markets, firms exploit the foreign market opportunities on the basis of the competitive advantages they have in domestic markets (Fernández & Nieto, 2005). Lack of resources and complications involved in the process of internationalization usually restricts firm's expansion in foreign markets. Theories of company internationalization explain the importance of different types of resources in the internationalization process of small firms[74].

Credit restriction, equity capital and lack of external debt are considered to be the main hindrance to the internationalization of SMEs (Chittenden, Hall, & Hutchinson, 1996; Friedman & Friedman, 1994, and James, 1999). Small firms are found to be characterized with conservative attitude and risk adversity with reference to finance availability (Ward, 1998). According to empirical evidence the financial institutions behave more conservatively while providing loans to SMEs. SMEs are usually charged comparatively high interest rates along with high collateral and loan guarantees (Stiglitz & Weiss, 1981). Thus, the hypothesis that financial constraints restrict the entrepreneur to start up a new project of internationalization is going to be investigated in present study.

- **Market Acceptance**

The efficiency with which a firm sells its products and services to the foreign market determines its export growth indicating that market acceptance as an important

[73] Alvarez, 2004.

[74] The importance of strategic capabilities and resources for internationalization is evident from electric theory by Dunning (1988) and resource based view by Peng (2001).

determinant of firm's export process. The firms are able to follow and act accordingly to meet the customer's needs and preferences with the help of market orientation. Firm's market intelligence helps to coordinate its internal processes to respond swiftly and efficiently to preferences of foreign customers (Hult, Snow & Kandemir, 2003, and Narver & Slater, 1990). Empirical evidence suggests that market acceptance is significantly associated to the overall growth performance of a firm (Jaworski & Kohli, 1993). The present study is going to analyze the impact of market acceptance on the firm's potential to export.

- **Lacking of Skilled Worker**

In addition to lack of resources and capacity utilizations, a significant barrier to growth is concerned with human resource management and the conditions relating to employ and dismissal of workers[75]. Shortage of technological skills is considered to be one of the main drawbacks of SMEs, which is deemed essential for the adoption of highly developed manufacturing technology (Lefebvre et.al, 1996). Shortage of skilled manpower can obstruct firm's innovative capabilities (Lefebvre et.al, 2000). In case of Pakistan skilled labor would like to get higher wage enabling financially strong firms to hire them adding to their productivity. The present study is going to analyze the impact of firm's technological knowledge represented by skilled labor on its export performance.

3.1.2.4 On Job Training

Literature based on the determinants of firm growth considers both human capital and financial resources as most important factors effecting small business growth (Wiklund et.al, 2009). Human capital can be defined as a combination of knowledge, experience and skills. On the firm level, the experience, skill and knowledge of the total employees contribute more promisingly as compared to the entrepreneur alone (Chandler & Hanks, 1994, and Birley & Westhead, 1990). Human capital can be measured both in terms of specific and generic terms. Generic human capital is defined in terms of different levels of educational attainment by workers. Specific human capital can be measured by employing a dummy variable indicating whether firm is offering on job training to its workers or not (Lee & Temesgen, 2005). In a developing country like Pakistan where the workers lack any formal training and education, informal training in

[75] Bartlett, W. and V. Bukvic. 2001. 'Barriers to SME Growth in Slovenia.' MOST 11:177-195.

the form of apprenticeship is common. Therefore, a dummy variable is involved in the analysis indicating whether the firm under consideration is providing informal training to its workers or not.

3.1.2.5 Presence of Unique Know-how

The unique technology employed by firms in their production processes is considered to be an important determinant of firm's technological capabilities. Small firms carry out a large number of technological innovations based on their unique know-how approach in an unbalanced manner among industrialized nations (Pavitt et.al, 1987, and Rothwell, 1988) and also in newly industrialized countries like Korea (Lee, 1995). They play an important role in the diffusion of technology and their unique know-how is often based on the improvements of general technologies developed by large firms. Competitive advantage based on a unique product[76] is significantly related to firm's performance (Julien et.al, 1994). The present study is going to investigate the impact of unique production processes on firm's export potential.

3.1.2.6 Number of Skilled Workers

Technological capabilities are found to be strongly related with the indicators of human capital as share of skilled employees in total labor force and firm's expenditures on training (Dikj, 2001). Human capital was found to be positively associated with exports in a study based on samples of German firms (Wagner, 2001). Negative relationship between human capital and exports was found among large samples of Brazilian firms (Willmore, 1992)[77]. According to the neo-technology theory, exports are positively affected by human capital because the technological capabilities of the firm depend mainly on skills. In case of developing country like Pakistan highly educated people have ability to speak foreign languages that are helpful to establish and develop contacts with foreign customers (Dikj, 2001). The present study is going to analyze the impact of skilled labor on its export performance.

[76] Haar & Ortiz-Buonafina, 1995, and Cooper & Kleinschmidt, 1985.

[77] The results are found to be inconsistence with Heckser-Ohlin theory predicting that countries with abundance of unskilled labor like Brazil, skilled labor is an expensive and scare factor and therefore negatively associated with the amount of goods exported.

3.1.3 Commercial Capabilities

Literature suggests that firm's market intelligence[78] and marketing capabilities[79] are considered as basics for entrance and expansion in the process of internationalization. High technology small firms have capability to overcome complications with technology than with the market (Fontes & Coombs, 1997). As their work was based on a sample of information technology sector, there are little chances of generalization of these results. But the present study has focused on the contributions of a wider range of commercial capabilities to export performance i.e. diversification, trademarks, use of trade fairs, personal visits and imported raw materials in the process of internationalization.

3.1.3.1 Diversification (Product Mix)

Exporting strategy of SMEs based on diversification of products and product lines have proved to be a successful[80] in export growth (Denis & Depelteau, 1985). In the presence of diversified products, the expertise and knowledge acquired in the fields of commercial and competitiveness can be transferred from one sector to others, which are found to be associated with export success (Christensen, 1991, and Cafferata & Mensi, 1995). The factor of product diversification was also found to be positively on export performance of US firms (Lee & Habte-Giorgis, 2004). Diversification strategy factors focusing on market and product diversification are found to be influencing firm's exporting performance, but they have not been given due importance while investigating firm's export performance (Balabanis, 2001, and Katsikeas, Leonidou, & Morgan, 2000). It is thus hypothesized that diversification contributes positively to firms' export performance[81].

3.1.3.2 Trade Marks

Mandatory legal measures like trademark protection is necessary to execute at early stages of firm export process[82].The presence of trademarks can serve as an asset for SMEs working in foreign markets (Lefebvre et al., 2000). In case of Pakistan almost

[78] Czinkota, 1982.
[79] Haar & Ortiz-Buonafina, 1995.
[80] Namiki, 1988.
[81] Though this hypothesis is against the general concept of reduction in diversification and focusing on main businesses in case of large firms (Markides, 1995).
[82] Steiner, (2003) Global Expansion - A Strategic Necessity for SMEs? http://www.smesgoglobal.com/index.php?id=663

every product produced by any firm has their trade marks. The study is going to analyze the impact of presence of trademarks on the firm's export performance.

3.1.3.3 Registered Trade Marks

In a developing country like Pakistan, the legal process of registering trademarks is not very effective. Every small firm does have trademarks, but that trade mark is not necessarily registered. According to the small firms, the process of registering trademarks is expensive, and once they got registered they are bound to follow the government rules and regulations strictly including taxes and other liabilities, compelling them to bribe the tax authorities. Moreover, their business activities are limited to certain level for which registration of trademarks is not required. Registration of trademarks is characterized by large firms in case of Pakistan. The study is going to analyze the impact of presence of registered trademarks on the firm's export performance.

3.1.3.4 Trade Fairs

The exhibitions and trade fairs organized by different government and non government associations have proved to be very helpful in providing opportunities to small firms in order to break into international markets by bringing buyers and sellers from different parts of the world simultaneously at the same place (Vohra, 2008). These types of opportunities add to firm's export experience, which helps entrepreneur to perceive risks and opportunities in the foreign market (Cavusgil et.al, 1979; Cooper, 1981; Christensen et.al, 1987; Aaby & Slater, 1989; Ogbuehi & Longfellow, 1994, and Moini, 1995). Frequent visits to international trade fairs could assist large enterprises in terms of acquisition of new products and designs from foreign buyers (Wignaraja, 2001). These trade fairs also facilitate firms to observe international market's attitude and knowledge of international affairs significantly influencing their choices and chances of breaking into international markets[83]. Thus, trade fairs can provide an outstanding prospect for firms to exhibit their products; discover foreign customer requirements, and level of competition in foreign markets.

[83] Czinkota & Johnston, 1983; Cooper & Kleinschmidt, 1985; Axinn, 1988; Aaby & Slater, 1989, and Madsen, 1989.

3.1.3.5 Networks and References

Networks can contribute positively to firm's growth by increasing output and employment in linked enterprises[84], diffusion of knowledge and skills among firms in different countries, helping SMEs to enter in the international market, increasing commercial transactions between multinationals and small firms, and increasing the choice for the small firms to serve the market of their choice (Elhiraika & Nkurunziza, 2006). Strong sociability helps entrepreneurs to develop social networks resulting in stronger relationships with partners, suppliers and customers (Barringer & Greening, 1998). The ability to establish and develop networks increases the probability of success and growth of business (Baron & Markman, 2000). The expansion of export process, based on coalitions and networks is regarded as an entrepreneurial act as it facilitates opening up of new product markets (Thorelli, 1987, and Ibeh, 2003). Considerable external economies for firms can be derived from networks and industrial districts along with incorporation with other firms. A firm's affiliation with international business or industrial group augments its commercial and financial capabilities consequently increase its chances for internationalizing itself (Sterlacchini, 2000).

3.1.3.6 Use of Imported Raw Material

Import of disembodied technologies is found to affect firm's productivity in a significantly positive manner (Hasan, 2002). Spending on imported raw materials and capital goods influences firm's productivity considerably (Topalova, 2007). In developing countries, the productivity enhancing affect of imported intermediaries has also been illustrated in the context of Chile (Kasahara & Rodrigue, 2004). In the context of present study, which is dealing with small enterprises, most of the firms are not involved directly in the import activities but they do utilize imported raw material in their products. Thus, a dummy variable has been included in the study to analyze the impact of imported raw material on the export performance of the firms under consideration.

3.1.4 Export Restricting Factors

Dynamism and willingness of SMEs to engage themselves in international activities is obstructed by different factors like availability of information, non-

[84] Fafchamps and Lund, 2001.

cooperation of Government agencies, competition intensity in foreign markets, financial difficulties and problem of cost competitiveness faced by small firms in international markets. These factors are taken into consideration to analyze their impact on the probability of being exporter.

3.1.4.1 Availability of Information

As for obstacles encountered by firms in the process of internationalization, the major problem is concerned with the lack of information regarding perception of risks and opportunities prevailing in foreign markets (Nassimbeni, 2001). Imperfect information and entry barriers imposed by large enterprises and foreign governments limit the international expansion of small firms (Acs et.al, 1997).The availability of information concerning both international markets and management of expansion is considered as a crucial factor for the development of internationalization process (Erikson et.al, 1997). According to Uppsala School of thought, exports are based on a learning process enabling firms to gain information of the temperament and working of new markets. This necessary information will facilitate them to expand abroad with a minor extant of uncertainty factor (Johanson & Vahlne, 1977). The present study is going to investigate the importance of information availability regarding exploration of international markets.

3.1.4.2 Non-Cooperation of Government Agencies

Firms entering in the export process have to face administrative and customs problems in both importing and exporting countries (Kedia & Chhokar, 1986; Madsen, 1989; Styles & Ambler, 1994). The chances of small firms' international success diminish as they have to face the fiscal imposition as well as bear infrastructural inadequacies (Nassimbeni, 2001). Small firms seem to be heavily penalized as compared with their larger counterparts both by local governments and by foreign legislative restraints (Styles & Ambler, 1994, and Chetty & Hamilton, 1996). Non-cooperative attitude on the part of Government agencies is reflected by inappropriate export incentives offered by government (Neupert et.al, 2006) and bureaucratic complications in the form of red tapism in public institutions (Kaleka & Katsikeas, 1995) in the presence of deep-rooted corruption in the public institution and departments (Stiglitz, 2002, and Tesfom & Lutz, 2006).

3.1.4.3 Increased Competition in Foreign Markets

In the consequence of present wave of globalization, SMEs have to face foreign competition in the home market[85], stimulating firms to explore international market along with domestic market (Etemad, 2005). Foreign competition is considered to be the highly rated problem, demonstrating that this problem is enduring and of generic nature (Katsikeas & Morgan, 1994). The increase in the foreign competition restricts small firms from entering and developing in foreign markets (Wilkinson, 2006). SMEs in the international market face challenges like intensified level of international competition from foreigners (Sampath, 2006). The study is going to investigate the impact of foreign competition on the export process of small firms.

3.1.4.4 Financial Problems

In the process of internationalization, small firms face financial constraints and under-capitalization (Buckley, 1997). Financial constraints correspond to the lack of financial resources. Credit restriction, equity capital and lack of external debt are considered to be the main hindrance to the growth of SMEs (Becchetti & Trovato, 2002; Pissarides, 1998, and Riding & Haines, 1998). According to empirical studies, financial institutions behave more conservatively while providing loans to SMEs, that's why they have to establish strategic alliances with firms in the target country (Welch, 1992; Kohn, 1997, and Keeble, Lawson, Smith, Moore, & Wilkinson, 1998). SMEs are usually charged competitively high interest rates along with high lateral and loan guarantees (Stiglitz & Weiss, 1981). Financial, human resource and managerial constraints restrict firms to carry on export-market oriented activities (Cadogan et.al, 2002). The study is going to investigate the impact of financial constraints on the export process of small firms.

3.1.4.5 Cost Competitiveness

According to Literature, a significant source of cost competitiveness at the firm level is considered to have the advantageous impact of scale operation resulting in lower average costs and thus improving market competitiveness[86]. Small firms mostly supply

[85] Etemad, 2004.

[86] The three main source of scale-based advantage include economies in the production process due to increasing returns to scale, economies in the mass purchases of materials and economies in marketing costs (Bhavani & Tendulkar, 2001).

non-branded varieties in bulk quantities to the international markets where the market is competitive both in terms of quality and price and therefore, it is necessary for the firms to be cost competitive in order to survive in the international market (Bhavani & Tendulkar, 2001). Those firms who are unable to customize themselves to the competition induced by international market are at risk and may not survive without significant improvement in output quality, management practices and cost competitiveness (Wignaraja, 2003).

3.1.4.6 High Cost of Visiting Foreign Markets

Small firms build their networks by associating with foreign companies in target countries having complementary skills like their own firms. For this purpose, the entrepreneur/manger has to go around and try to formulate a network through personal contacts, visiting overseas markets and other clients (Coviello et.al, 1998). Frequency of visiting foreign markets essentially adds up into international experience (Voerman, 2003).

International markets visits are found to be positively affecting the export performance (Beamish, Craig & McLellan, 1993, and Hart & Tzokas, 1999). Frequent visits to overseas markets are considered of vital importance for the development of international markets (Moini, 1995). In contrast, some researchers suggest that the factor of visiting abroad markets deemed not to be important or insignificant (De Luz, 1993; Koh & Robicheaux, 1988; Koh, 1991, and Katsikeas, Piercy & Ioannidis, 1996). In a developing country like Pakistan, firms lack such resources enabling them to visit foreign markets, get familiar with the market situation and requirements, and act accordingly. High cost of visiting foreign markets is proved to be a major obstacle in the process of internationalization of small firms and it is going to be investigated in the present study.

3.2 Factors Affecting Firm's growth

3.2.1 Firm Level Characteristic

Individual competencies can be described as the knowledge, abilities or skills mandatory to execute a particular job. Under firm characteristics, this study has employed different determinants of firm growth like Individual firm's characteristics,

organizational/business practices[87], technological capabilities and market structure determinants.

3.2.1.1 Individual Firm Characteristics

The classical firm features can be referred as firm age and size. The Gibrat's law can be considered as pioneer referring to the discussion on the relationship between firm age/size and firm growth (Audretsch et.al, 2004). The law focuses on the independence of growth and size[88]. According to this law the firm's growth is proportional to their size, and the growth of all firms takes place at the same rate over an interval of time, despite of their initial size within the same industry[89].

[87] Boyatzis, 1982.
[88] Hart & Prais, 1956; Sinom & Bonini, 1958, and Hymer & Pashigan, 1962.
[89] Studies yielding negative support to Gibrat's Law include Becchetti & Trovato, 2002.

- **Firm Size**

Firm size is the factor generally acknowledged in relation to firm's growth (Davidsson et.al, 2002, and Storey & Johnson, 1987). Firm size can be measured in terms of number of employees, and firm growth can be examined by employing the firm size. The flexibility of small firms enables them to act according to variations in the marketplace by pursuing new ideas of business as compared to large companies (Barkham et.al, 1996, and Wagner, 1995). A study employing U.S. data found a significant negative relationship between firm size and growth rate, indicating that larger firms have tendencies to grow at slower rates (Evans, 1987). Firm size and growth rates were found to be correlated negatively in a study conducted to understand the dynamics and industrialization in China (Chow & Fung, 1996). A positive relationship between firm size and firm growth imply that large firms' owners are found to be more optimistic than smaller firm's owners (Gartner & Bhat, 2000). Owner-managers possessing improved levels of entrepreneurial expertise and administrative capabilities can lead business towards the process of growth in case of large firms, till the firm achieves its comfort level of size in terms of number of employees (Glancey, 1998). A firm starting with five or more workers was found to have a six-year survival rate than greater than the firm that initiated business with less than five workers (Phillips & Kirchhoff, 1989). Start-up size was also found to be positively correlated with firm's growth among new manufacturing firms (Wagner, 1992). The study is going to investigate the impact of firm size on its growth process.

- **Firm Age**

The factor of firm age has been a extensively used to analyze the process of firm growth yielding evidence that younger firms grow rapidly as compared to older firms (Glancey, 1998; Dunne et. al, 1989, and Evans, 1987). Because of the minimum efficient scale (MES) consequences, a younger firm has more chances to attain considerable growth (Storey, 1994)[90]. After achieving a satisfactory level of return, lack of motivation on behalf of owner-manager or diseconomies of scale can be considered as basic factors inhibiting older firms to grow further.

[90] It can be explained by the fact that attainment of MES enables business to grow rapidly in early years, and grow slowly subsequently.

A negative correlation was found between firm age and growth rate in the process of examining the impact of firm age on firm growth by employing multiple regression analysis (Almus & Nerlinger, 1999). Older firms were found to grow less rapidly as compared to younger firms in Australia (Tibbits, 1999) and in a multi-variable analysis of a census of manufacturing industry (Wagner, 1995). Firm's growth was found to be related inversely with firm age in Scotland (Glancey, 1998).

However, the factor of firm's age is found to be positively associated with firm growth asserting that older firms are more likely to grow rapidly as compared to younger firms (Das, 1995), because of the advantage of established finance, products and services facilities (Heshmati, 2001). Greater expertise and knowledge, dynamic economies of scale, higher profit margins and firm reputation can be considered as major factors enabling older firms to achieve stronger growth. Development of up to date practices with respect to market dynamics enable older firms to grow at a faster rate as compared to younger firms. Older firms can grow faster than smaller ones because of their capacity of employing skillful managers and workers and attaining efficient production techniques (Cheng, 2006). The study is going to investigate the impact of firm age on its growth process.

3.2.1.2 Organizational/ Business Practice

- **Innovation**

SMEs are considered to be more fertile than larger Firms in terms of innovation (Carrier, 1994). The factors including innovativeness, flexibility, and analytical capabilities have considered being vital for SMEs success since 1990s, asserting on the importance of entrepreneurship for large companies (Chittipeddi & Wallett, 1991). The functioning of small firms can be summarized being the promoter of innovation in terms of new products and services, introduction and improvement of innovation necessitating flexibility on the part of owner-manager, and capability to respond and to proceed accordingly (Mahmood, 1992). Innovation and risk-taking behavior on the part of owner manager were considered as prerequisites for successful performance of small firms (Bird's, 1989). Positive impact of innovation, quality and operating efficiency on successful performance in terms of growth has been recognized (Larson, 1987).

Marketing strategies including cost leadership, niche target, and product innovation are the major factors contributing to the success of small business growth (Luk, 1996). Innovation and the recognition of a particular niche are found to be major factors affecting the rapid growth of small firms (Beaver, 2001). The process of innovation can be referred as development of unique and novel products, services, or processes, involving the deliberate attempt to generate purposeful, focused transformation in the economic and social potential of an enterprise on the basis of individual inspiration and perception (Phillips, 1993). Innovativeness being an important component of entrepreneurial orientation[91] refers to the willingness of a firm to maintain creativeness and experimentation to introduce new products, services, technological control, and R&D in developing new processes.

In the present study, the process of innovativeness has been divided into product and process innovations along with modification or improvement in the existing products. The introduction of product innovations generally leads to generate new demand, process innovations results in cost reduction and incremental innovation in case of existing product leads to both creating a new demand as well as in reduction in cost of production. These elements of innovativeness affect the growth process of the firm positively (Cohen, 1995). Innovation in terms of new product introduction is being acknowledged as a key factor significantly affecting the growth of small business (Storey, 1994). Introduction of new product in their product range and service has been recognized as the major difference between rapidly and slow growing firms (Smallbone et. al, 1995). The study is going to investigate the impact of these three types of innovation process on growth of firms.

- **Local Market Sales**

According to economic theory it is proposed that firms that cater to their local markets are able to attain competitive advantages by quickly responding to customers and properly utilizing networks and community support systems. Dynamic economic theories suggest that strategic flexibility and capacity to modify market focus effects growth positively, necessitating diversification in new products and new markets (Gorman,

[91] Entrepreneurial orientation is defined as a combination of innovation, pro-activeness and risk taking on the firm level (Miller, 1983).

1997). OECD in a study established that high growth SMEs serves both in national and international markets, without making the judgment that exporting activities promote growth (OECD, 2000). In the present study the impact of local market sales is going to be investigated with reference to firm growth.

- **Sources of Financing**

On the basis of resource-based analysis, financial resources are one of the most important resources for the growth of small business (Wiklund et.al, 2009). Secured financial resources are considered as predominantly vital in supporting firm growth[92] because it is comparatively easy to convert them into other types of resources (Dollinger, 1999). A firm having sufficient resources is capable of performing experiments, increasing both innovativeness and chances to pursue new opportunities of firm growth (Castrogiovianni, 1996, and Zahra, 1991). Financial resources of a firm depend mainly on the past financial performance of a firm, as past profit can be reinvested into the business. Eventually, a firm not only depends on external funding, but also utilizes its internal resources to finance business. The firms with superior financial performance have the chance to grow according to the evolutionary theory of "Survival of the fittest" (Coad, 2007). The empirical support for this hypothesis is still ambiguous. While some studies support positively the relationship between financial performance and growth (Bottazzi & Secchi, 2005), while some found only modest effects (Coad, 2007) along with some negative support for this relationship (Hardwick & Adams, 2002). The reason behind these contradictory findings is that there are a large number of unexplained sources of variations in the growth rate of firms (Coad, 2007).

Cooper et.al (1989) compared the difference between small firms and large firms in terms of entrepreneur background, management process, perceived problem changes instituted, and financing. The retained earnings termed as internal finance act as a prime source of financing for the growth of SMEs (Baldwin et.al, 1994). However, the use of financing from external sources as from financial institutions, market and individual investors can be considered as an important distinction among successful and less successful firms. The study is going to analyze the effect of external financing on the growth performance of firms under consideration.

[92] Bamford, Dean & McDougall, 1997, and Sexton & Bowman-Upton, 1991.

3.2.1.3 Technological Capabilities

Technological capabilities are considered as the firm's current ability and its future potential to utilize firm-specific technology to resolve technical problems and to augment the technical functioning of its production processes along with its finished products (Nicholls-Nixon, 1995). The essential component of competition is differences in the technology adopted by different firms; therefore it plays a major role in growth performance of small firms. It involves diversification (product mix), number of markets dealing with, presence of unique know-how along with on job training capacity of the firm.

- **Diversification (Product Mix)**

Literature suggests positive effect of diversification on growth process of firms by helping them to deal with particular product line demand constraint and creating new growth opportunities. Diversification into new products is considered not only as an important medium of competition but also as a major engine to firm growth (Ansoff, 1965, and Marris & Wood 1971). Firm growth was found to be constrained due to absence of product diversification providing evidence to the argument that less diversified firms performed poorly in terms of growth as compared to firms that were more diversified (Chen, Babb & Schrader, 1985). According to firm's growth model proposed by McCann (1991), during the last stage of Organizational Life Cycle Perspective, firms may possibly be revived or decline depending on the breakthroughs and product diversification success. Thus, it can be proposed in the present study that diversification (product mix) has positive impact on firm's growth performance.

- **Number of Markets Dealing With**

Some researchers suggest that firm location is an important determinant of firm growth because the local market bound firms (Davidsson, 1989, and Storey, 1994). In spite of the support provided to firm by local market, it not essential that the firm restrain its sales only to the local market. By utilizing modern means of communication and networks, the firm can diversify its geographic markets. Therefore, the diversification into different geographic markets like national and international markets, will lead to a positive impact on firm's growth. A positive correlation between firm growth and diversification into markets was found by Becchetti and Trovato (2002).

In the absence of any particular strategy independently associated with firm's growth, the fast growing firms are characterized with the approach of actively dealing with different dimensions with respect to products and market development (Storey et.al, 1989). The small business characteristics along with business infrastructure and specific customer markets are considered as important variables affecting firms' growth (Cheng, 2006). The positive impact of diversified markets on the firm growth is going to be investigated in the present study.

- **On Job Training**

Literature based on the determinants of firm growth considers both human capital and financial resources as most important factors effecting small business growth (Wiklund et.al, 2009). Human capital can be defined as a combination of knowledge, experience and skills. On the firm level, the experience, skill and knowledge of the total employees contribute more promisingly as compared to the entrepreneur alone (Chandler & Hanks, 1994, and Birley & Westhead, 1990).

Small firms in Cleveland (Ohio) were characterized with inadequate suppliers and deficient demand of skilled labor (Storey, 1985). Improper utilization of formal training can be related to resource constraints including time and money and inadequate training facilities by small firm's owner-managers, indicating the ambiguous relationship between training and growth performance (Freel, 1999). Lacks of experience, knowledge or confidence on behalf of owner-manager are the severe problems faced by firms as a consequence of paying not too much attention on training of their employees (Cromie, 1991). The likelihood of firms undertaking training for their staff appears to increase with the size of the firm. It is expected that firm growth would behave differently if staff training is related positively to growth (Phillips & Kirchhoff, 1989). It is possible for firms to survive without appropriate training with restricted growth potential (Kirby, 1990). Different problems concerning employee training among small firms include lack of time and financial resources for such training, acceptability and quality of training to workers and management along with its potential outcome (Mahmood, 1992). In a developing country like Pakistan where the workers lack any formal training and education, informal training in the form of apprenticeship is common. Therefore, a

dummy variable is involved in the analysis indicating whether the firm under consideration is informally training workers or not.

- **Unique Know-How**

Small firms carry out a large number of technological innovations based on their unique know-how approach in an unbalanced manner among industrialized nations (Pavitt et.al, 1987, and Rothwell, 1988) and also in newly industrialized countries like Korea (Lee, 1995). They play an important role in the diffusion of technology and their unique know-how is often based on the improvements of general technologies developed by large firms. This unique know-how employed by firms in their production processes is considered to be an important determinant of firm growth. In order to make the concept clear for the purpose of this research, the focus will be on the idea that firms providing unique products or services using differential strategies in comparison with their competitors can have significant growth in their business development.

3.1.2.4 Market Structure

The major force behind a firm's growth is considered to be the market structure in which it operates. The growth process of firm is influenced by the fact that whether the firm is operating in competitive market conditions or not. Important aspect of an industry's market structure is whether the firms are able to compete for their products in market or not. The market structure comprises of market orientation of the firm, the ability to adapt its price policy according to market changes and change in its market share over a period of time.

- **Market Orientation**

The efficiency with which a firm sells its products and services to the customers determines its growth establishing market orientation an important determinant of firm growth. The firms are able to follow and act accordingly to meet the customer's needs and preferences with the help of market orientation. The development of their market intelligence helps them to coordinate firm's internal processes so that it can respond swiftly and efficiently according to customers and stakeholder's requirements. Accordingly, market orientation results in improved satisfaction of customers and stakeholders leading to the firm's growth (Hult, Snow & Kandemir, 2003, and Narver & Slater, 1990). Empirical evidence suggests that market orientation is significantly

associated to the overall growth performance of a firm (Jaworski & Kohli, 1993). The present study is going to investigate the impact of market orientation on firm's growth.

- **Market Share**

Numerous empirical studies have established the significance of market demand for a firm's innovative activities and its growth (Kleinknecht, 1996, and Cohen, 1995). The demand of the product of a firm determines its growth process. The binding expansion of the firm's main product forces the firm to search new customers, diversify into new products and into new geographic markets. The competitive advantage enjoyed by the firm while producing a certain good or service results in the increased market share (Porter, 1980). Thus, it is assumed that there exists a positive association between market share and firm growth (Harabi, 2005). The present study is going to analyze the impact of market share on firm's growth.

- **Price Adaptability**

The firm's ability to adapt its pricing policy according to competitive pressures is positively associated with the growth of expected sales. Such capacity of firms to change their market shares in response to such pressures facilitates them in increasing their market share accordingly (Harabi, 2005). This study is going to investigate that whether the firm is able to adapt its pricing policy with respect to the market contraction or expansion along with the consequent impact on its growth process.

3.2.2 Owner-Manager Characteristics

3.2.2.1 General Background

Growth ambition is influenced by age factor of the owner and this effect is being investigated by many studies. General background comprises of the factors including age and education of the owner-manager.

- **Age of Owner-Manager**

Age of the firm's owner has been investigated from different perspectives. Firm's growth is found to be closely associated with the age of the owner-manager. High motivation level of younger owner-managers reflects their ambition to test their business capabilities. Whereas, the rational views of older owner-managers enable them to reach probable size of their growth as compared to those run by younger ones (Kangashrju, 2000). Flexibility is considered to be an important factor linked inversely with age,

facilitating younger owner-manager to carry on fundamental changes with greater competence level (Barkham el.al, 1996).

Literature suggests that the energy and commitment level of younger owner-managers allowing them to work for long hours considered necessary for a flourishing business (Heshmati, 2001, and Jovanovic, 1982). Factor of experience is found to be associated with age, indicating that younger business owners are characterized with higher levels of commitment, need for achievement, and anticipated restrictions in physical facilities are expected to have a growing business (Sapienza & Grimm, 1997, and Lau & Busenitz, 2001), whereas older owner-managers are unlikely to have the physical power to carry on hard work especially in the later stage of their working lives.

On the other hand, there is evidence suggesting positive correlation between firm's growth and age. According to the supporters of this argument, the lack of credibility, trade experience and financial constraints are the main characteristics linked with young owner-managers business practices. The survival rate of firms managed by old owner-managers instead of young owner-managers is found to be higher due to their risk aversive nature and control of higher skill levels and experience. Under these considerations, the growing business possibilities are more likely to be associated with older owner-mangers. Older individuals are found to be characterized with higher levels of satisfaction regarding firm's growth than did younger individuals. Skill and experience can be associated with older people. The age of the owner-managers is found to be associated with the practical problem-solving ability of the individual firm (Herzog & Rogers, 1986).

- **Education of Owner-Manager**

Education helps an entrepreneur to utilize different resources and opportunities in an optimal manner and enhances his ability to handle different problems. Education along with growth motivation can affect growth in a more effective way (Wiklund & Shepherd, 2003). Education adds toward development of entrepreneurs managerial and analytical abilities in defining strategy, introducing planning approach, replicating the operating systems and employing workers along with operational responsibilities considered crucial for business expansion (Casson, 1991). Literature suggests that education can be expected to be related closely to firm growth as it contributes positively towards the

improvement of entrepreneurial capabilities deemed essential for business development (Kangasharju, 2000, and Cooper et.al, 1992).

A negative relationship between growth ambition and education level of entrepreneurs was also found (Welter, 2001 and Nandram & Samsom, 2002). Therefore, it is argued that highly educated entrepreneurs might be slow in decision making but their experience helps them to make rational decisions which in turns lead to real firm growth.

If the educational qualifications are not found to be directly influencing the business, they may add to firm's growth either through improving the entrepreneur's communication skills with the consulting parties, especially financial institutions facilitating them in their financial problems thus contributing indirectly towards business development (Basu & Goswami, 1999). Educated owner-managers have comparative high earning prospects through firm's growth, because of the fact that education is considered as a major component of the human capital required for business success (Storey et.al, 1987). Theoretically it could also he argued that a higher level of education provides the individual with greater confidence in dealing with business.

3.2.2.2 Growth Motivation

Literature concerning small businesses differentiates small business owner and the entrepreneur. The small business owners are accorded as income substituters because of the fact that they replace the paid-employment income with business income[93], while entrepreneurs devote themselves to develop their businesses (Birch, 1987). The importance of personality traits of entrepreneurs is a key factor but they may not essentially contribute towards real firm growth. Personality traits effect the growth motivation in a more promising manner (Delmar, 1996). Therefore, it can be argued that both the willingness and ability of owner along with growth motivation play an important role in entrepreneurial ventures. Following indicators involving the owner's entrepreneurial strength, desire for sovereignty, unemployment push and whether the business activities are carried out as a certain lifestyle of entrepreneurial attitude and incentive to develop their business are being considered while investigating the factor of growth motivation.

[93] Hay (1994) has termed income substitutors as "life-stylers" because their goal is to achieve long-term stability instead of growth, and they use business as an income generating activity adequate to sustain a certain "life-style."

- **Entrepreneurial Intensity**

The most important characteristic of an entrepreneur to develop his business is considered as risk taking propensity. An entrepreneur can be distinguished from simple business owner as they consider new opportunities and deal with uncertainties in a more promising manner[94]. Similarly Individuals with a high degree of risk taking attitude have tendencies to grow their business without any apprehension (Casser, 2007). The literature suggests an ambiguous role of risk taking propensity towards entrepreneurial activities (Palich & Bagby, 1995; Babb & Babb, 1992; Low & Macmillan, 1988; Kogan & Wallach, 1964, and Litzinger, 1961). Entrepreneur's different perception of risk can be the reason of such a weak relation (Sarasvathy, Simon & Lave, 1998; Fry, 1993, and Corman, Perles & Vancini, 1988). Active risk taking attitude was found to be an important factor that accustomed the owner-managers motivation to optimally utilize the financial, physical, material and intangible resources required for firm growth (Perren, 2000). Gundry & Welsch (1997) realized that the commitment to growth is the main factor that differentiates "high" growth from "low" growth businesses. In addition to innovation, introduction of new product or services, risk taking attitude and new venture penetrations are considered essential for orientation of entrepreneurship created for profitability and growth (Lumkin & Dess, 1996, and Olson, 1987).

Owner-managers should have the characteristics like work commitment with high motivation levels, clear perception of economic principles and consequences, achievement oriented, innovative and risk-taking attitude, growth aspiration, proactive and profit oriented (Hyrsky, 1999). The factors of previous start-up business experience, excellent customer response and services, intention to work for long hours, flexibility and willingness to take business risk, ability to communicate effectively with various parties, good planning techniques, participative, clear and broad business ideas, along with adaptive organizational structure are considered as the prerequisites for business success (Cheng, 2006). However, on the basis of relationship between risk taking propensity and growth ambition, a positive impact of risk taking propensity on firm growth is proposed.

[94] McCelland, 1961; Timmons et.al, 1985; Chell et.al, 1991, and Morris & Sexton, 1996.

- **Desire for Independence**

Entrepreneurs initially stimulated by 'being your own boss' are more prone to low growth levels. The reason behind this is that they do not want to hand over major responsibilities to others leading to a decline in their decision making attitude (Glancey, 1998). In a study conducted in Netherlands only 16 per cent of the SME's owners were found to have a growth motivation (Mosselman et.al, 2002). Several studies across various countries demonstrated that most business founders are characterized with modest growth aspirations, effecting directly to firm growth (Cliff, 1998; Delmar & Davidsson, 1999; Dennis & Solomon, 2001, and Human & Matthews, 2004). Therefore, intrinsic growth motivation of an entrepreneur is incorporated to determine its effect on firm's growth. Retaining personal control and business independence can be considered as a key factor restricting the growth of many prospective growing SMEs (Gary, 1990).

Satisfaction of most owner-managers with their employment conditions, different types of motivational factors, desire of independence and power, remuneration, working position with respect to society and contribution to the national economy are all important factors contributing towards the firm's growth (Hankinson et.al, 1997). Desire of personal independence can be considered as an important pull factor in the choice to choose a line of business as a small business owner (Gary, 1990). Other important pull factors include the aspiration for success and independence, greater personal freedom and control, higher social status, financial liberalization, niche market identification, best utilization of expertise, prior business experience and market research indication positive influence towards firm's growth (Basu & Goswami, 1999). The originality and perception can lead towards higher level of independence and self-sufficiency to execute an innovative or differential initiative, product, or service in the market to assess their capability and viability.

- **Unemployment Push**

The literature suggests that some individuals may have started small businesses because the pressure of unemployment forced them to do it (Zhengxi et.al, 1999). It is generally accepted that the countries where small firms accommodate high proportion of employment lead to faster rates of economic growth. Literature suggests the importance

of unemployment as an important aspect explaining the growth of self-employment (Storey & Johnson, 1987).

Unemployment push is predominantly a key factor forcing individuals to establish their own businesses. The rationale behind this is that the unemployment was the only factor considered by the owner-manager in starting a business without considering any objective, contemplation, planning or even any new ideology, and with a lower level of expertise and aspiration considered necessary to initiate a new business. On the other hand, individuals initiating their business not because of the factor of unemployment usually have a clear objective, consideration, and scheduling, innovative ideas with improved skills considered essential for firm's growth. In such circumstances, the owner-managers work with much confidence and attain better performance in firm's growth (Cheng, 2006).

- **Lifestyle Businesses**

Likewise, it is argued that individuals who are engaged in a parallel paid-employment job have less time and motivation to invest in the growth of their business (Papadaki & Chami, 2002). The reason behind this factor is that some of these owner/mangers are complementing their job with some income from independent business, so that they can sustain a certain lifestyle (Riding & Haines, 1998). It is thus hypothesized that a negative relationship between lifestyle business and firm's growth will be examined in present circumstances.

3.2.2.3 Management Know-How

The characteristics of management know-how of an entrepreneur are of considerable importance in the process of firm growth. Management know-how is the possible outcome of many factors like having an intergenerational heritage, experience of paid-employment in a similar business, or previous management experience being owner of some other business. Furthermore, working under partnerships can affect the managemental know-how of entrepreneurs.

- **Entrepreneurial Heritage**

Literature suggests that individuals from families owning a business are more inclined to start an entrepreneurial venture by developing knowledge of how to run a business (Papadaki & Chami, 2002). Empirical evidence suggests that belonging to an

entrepreneurial family, augments the probability of survival (Cooper et.al., 1994, Papadaki et.al, 2000). About 50 per cent of entrepreneurs were found to be belonging to a family involved in entrepreneurial activities (Gasse, 1987). In the growth perspective of the firm, it is supposed that an entrepreneur belonging to a family with one or more owner-managers will be supported by their experience as well as can rely on family financing[95]. Successful small business is influenced by individual characteristics like brilliant decision taking ability, hard work, adequate related effort, good interpersonal and diagnostic expertise, first-class education and training, along with family support (Luk, 1996). The study is going to test the impact of belonging to a family of entrepreneurs on firm's growth.

- **Industry Specific Know-How**

Study conducted on the fast growing young companies found that the companies started by founders having some experience in the same industry are more likely to grow faster as compared to their counterparts (Reynolds, 1993). It is therefore assumed that both the industry-specific know-how, ranging from investment in human capital both in terms of developing relationships with specific suppliers, investors, customers reduces the chances of failure of new venture along with the implicit understanding of the production processes, products, market niches[96] and technology develop their capacity to obtain financial assistance, improve sales and enjoy other types of co-operation. Crucial factors required for the success of SMEs involve relevant managerial background and experience, operational flexibility, accessibility of skilled labor, and control of exclusive competitive advantages (Steiner & Solem, 1988). Some researchers have exhibited no relationship between previous managerial experience and firm's growth (Dunkelberg et.al, 1987).

Owner-managers with managerial experience, normally obtained through previous jobs contribute towards firm's growth. Previous managerial experience was found to be associated positively with small firm's growth (Storey, 1994). Individuals having previous managerial experience within big associations are found to be significantly expected to set up their own businesses (Keeble et.al, 1992). One-third of

[95] A positive association between an entrepreneurial family origin and firm growth is being observed by Julien (2000).
[96] Johnson, 1986.

owner-managers in fast and slow growing firms had previous business practicalities and earlier sector expertise (Storey, 1994). Relating to the degree of managerial experience, the owner-mangers of rapidly growing firms were much more likely to have been owner-manager of previous business foundations. Studies have exhibited that prior experience was found to be related positively and significantly to small firm's growth (Basu & Goswami, 1999, and Duchesneau & Gartner, 1990).

Prior experience was found to be prerequisite by female entrepreneurs for success in business growth (Cuba et.al, 1983). Study based on a questionnaire survey in small manufacturing and commercial enterprises in Singapore established that previous sector experience was considered to be positively related to small firm's success and growth (Tan & Tay, 1994). Therefore, the present study is aimed to find out that whether the industry experience has a positive influence on firm growth or not.

- **General Business Management**

Literature suggests that firm's performance is positively affected by prior entrepreneurial experience[97]. According to them, the related experience contributes positively in enhancing self-confidence among entrepreneurs (Orser et.al, 1998) and leads them to venture success (Delmar & Shane, 2006). Moreover, previous entrepreneurial experience provides implicit information of organizational practices and expertise to acquire resources and utilize them optimally to develop their new business (Delmar & Shane, 2006; Ripsas, 1998, and Shepherd, Douglas, & Shanley, 2000) along with a clear insight about essential roles and responsibilities in an organization (Ericsson & Smith, 1991). Past experiences can help them in both in managing new ventures (Ripsas, 1998, and Shepherd et.al, 2000) and take advantage of an already established network of customers, employees, investors and suppliers (Campbell, 1992) playing a crucial role for the success of a new business. As growth can be used as a parameter to measure business success, therefore the above mentioned arguments suggest that firm growth is positively influenced by entrepreneurial experience.

[97] A positive relationship was found among entrepreneurs with general business management experience and their growth ambition (Orser, Hogarth-Scott & Wright, 1998).

- **Partnerships**

The business ventures also provide psychological support in decision making and other major problems faced by the firm (Perren, 2000). Partnerships and alliances can help both in distributing spread risks and sharing costs along with opening of new markets and development of new services, products and processes. The importance of partnerships and coalition has been empirically stated by the studies of firms with high growth performance (OECD, 2000, and Barringer & Greening, 1998). The number of partners at start-up was found to be a major contributor in the success of small firms (Cooper et.al, 1992, 1994). In the later stages of business growth, presence of partners can provide valuable source of know-how as well as fulfilling different financial needs for the firm growth.

Businesses can take on different general forms including sole proprietorship, partnership, and limited company. Rationally a firm can follow these options in the form of a sequence in the process of evolution of small firms (Cheng, 2006). It may be likely that an entrepreneur initiate a business first in the form of a partnership to deal with the problem of insufficient capital and other administrative difficulties, and then lead to sole proprietorship after sorting out all the issues. Limited companies have greater chances of employment growth as compared to sole proprietorship and partnership (Storey, 1994). The study is therefore investigating the impact of partnership in relation to business growth.

3.2.3 Growth Restricting Factors

Along with the factors affecting firm's growth; there are also factors that obstruct the potential growth of the firm named as growth barriers (Davidsson, 1989). Literature suggests that SMEs are mostly hindered by barriers relating to market's entry and their growth in the early stages of their life span as compared to their large counterparts. Frequently addressed restrictions for small businesses growth comprises of institutional barriers, non-institutional barriers and financial barriers.

3.2.3.1 Institutional Barriers

Institutional barriers are mainly associated with the firms' interaction with government, comprising of taxation problems, legalization issues, and government

support programs along with other barriers. Consistent results from both the theoretical and empirical data states that certain institutions discriminate against the SMEs growth intentionally in the form of un-favorable tax system, complicated rules and regulations and biased policies, thus hampering firm's growth (Davidsson & Henreksson, 2002). The institutional barriers employed in the present study to investigate their impact on firm's growth comprises of regulation on foreign trade, level of taxes, other regulations, political instability, inflation and price Instability.

- **Regulation on Foreign Trade**

Literature suggests that trade promotes productivity growth within industries, leading weak firms to exit and allowing strong firms to flourish (Bolaky & Freund, 2006). But specialization cannot be induced if factor movement is restricted due to strict rules and regulations. In such situations, strict regulations inhibit free entry and exit of firms and restrict labor to move freely within sectors and firms. In such circumstances, trade is not able to serve as an engine of growth because of the rigidity of structure of economic activity. Countries with system of excessive regulations, business respond to changes in growth opportunities through the expansion of existing firms, while in countries with moderate regulations, business respond through the creation of new firms (Fisman & Sarria-Allende, 2004). The impact of foreign trade regulation is going to be investigated on the process of firm's growth in present study.

- **Level of Taxes**

An unsuitable tax system and a range of biased official policies correspond to a major factor effecting firm's growth (Barlett & Bukvic, 2001). Bribery is considered to be a consequent outcome of over-taxation concerning to a particular sector, providing incentives to the firms to influence the taxation authorities having negative impact on foreign direct investment (Wei, 1997). An empirical study conducted on Ugandan firms found that rate of taxation is negatively correlated with firm growth (Fisman et.al, 2001). The present study has hypothesized a negative relationship between firm growth and level of taxation.

- **Other Regulations**

Complex laws, policies and rules relating to companies can prove to be particularly harsh to the growth of small firms. Grey economy is considered to be a

consequent outcome of over-regulation relating to a particular sector, providing incentives to the firms to influence the regulatory authorities in their support, leading to the establishment of culture of "unproductive entrepreneurship" (Baumol, 1990). The complexity of government regulations and legislations, and the inheritance of the background of relations with regulatory authorities, may support the culture of corruption and bribery (Schleifer & Vishny, 1993).

This over regulation results in the un-optimal utilization of resources, as it shifts the scarce resources away from industrious and profit-generating activities towards the understandings and acquiescence of rules and regulations. According to the literature, regulations hamper the process of market entry, innovation, investment, firm growth, distort market forces, and decrease the returns to entrepreneurs leading to less efficient level of economic activity[98]. Some suggest that the cumulative effect of rules and regulations is more problematic for small firm as compared to that of an individual regulation (Harris, 2002). The collective impact of employment and other regulations is severely hampering small firm's growth (Ram et.al, 2003). This study has hypothesized a negative relationship between the factor of other regulations and firm's growth.

- **Political Instability**

Political instability is considered as one of the major constraints having a negative impact on the productivity of manufacturing sector featuring poor business environment (Elhiraika & Nkurunziza, 2006). At the aggregate level, a high level of risk factor is attached with the presence of weak institutions that can in turn lead to political instability with a considerable negative impact on overall economic growth and even a stronger adverse effect on individual firm's performance (Gyimah-Brempong, 2004, and Fosu, 2003). Keeping in view the severity of political instability in Pakistan, present study is going to investigate the impact of political instability on firm's growth.

- **Inflation and Price Instability**

Inflation is considered to be one of the important factors that cause the disturbance of business planning leading to an unfavorable consequence to the firm's

[98]Kingston University, (2005), "Regulation and Small Firm Performance and Growth: A Review of the Literature" www.berr.gov.uk/files/file38268.pdf

capital investment. It affects the firm's budget by disturbing their cost structure[99]. In the presence of high and volatile inflation, the operation of the price mechanism is distorted leading to inefficient allocation of resources. In the absence of adequate information regarding relative price levels, it influences the firm's decisions about supply and purchase of desired products. Price instability also disturbs the menu costs of firms by affecting price information. It becomes difficult for firms to undertake planning and investment decisions during the periods of inflation as they are uncertain about the prices and costs of their products. If firms are unable to adjust this increase in costs properly, this will eventually affect their profits leading to some firm's closure, or reduction in production and consequent employment levels[100].

3.2.3.2 Non-Institutional Barriers

Non-Institutional barriers are mainly associated with the firms' internal resources and capacity utilizations, the scope of dealing with different markets along with issues relating to human resource management and problems relating to diversify into new markets (Barlett & Bukvic, 2001).

- **Lack of Market Demand**

The importance of market demand for a firm's growth is evident from literature (Kleinknecht, 1996, and Cohen, 1995). Lack of market demand hinders firm growth. Market demand of a firm's product determines its pace of growth. Lack of market demand implies shortage in its production and its consequent impact on the reduction in employment level. Thus, it is assumed that there exists a negative association between lack of market demand and firm growth[101].

- **Lacked Skilled Labor**

In addition to lack of resources and capacity utilizations, a significant barrier to growth is concerned with human resource management and the conditions relating to employ and dismissal of workers[102]. A major factor inhibiting SME's growth is the entrepreneur's inability to branch out the business functions to its managers (Storey, 1994). This propensity can be highlighted by shortage of skilled managers, along with

[99] http://tutor2u.net/economics/content/topics/inflation/costs_of_inflation.htm
[100] http://everything2.com/index.pl?node=The+effects+of+inflation&lastnode_id=1474863
[101] Harabi, 2005.
[102] Bartlett, W. and V. Bukvic. 2001. 'Barriers to SME Growth in Slovenia.' MOST 11:177-195.

their deficiency of business expertise in the vicinity of promotion and business expansion (Bartlett & Bukvic, 2001). The magnitude of internal barriers differs with the firm's size. An entrepreneur can deal with different fields of management including human resources, finance, marketing, and product expansion in the early stages of business. On the other hand, after a firm has achieved a certain stage in its life cycle, professional and management support is required by the firm to grow further. The present study is going to analyze the impact of shortage of skilled labor on firm's growth potential.

- **Access to New Markets**

SMEs mostly experience inadequate market information. They are also unable to adjust themselves adequately to changing preferences and tastes of customers, leading to a decline in existing market shares or add to the inability to penetrate in new markets (Adam et.al, 2006). In addition, they face competition from improved quality and reasonably priced imports. In the presence of all these factors, it can be stated that inability of firms to access new markets can be considered as a major hindrance to firm's growth (Bartlett & Bukvic, 2001).

3.2.3.3 Financial Constraints

Financial barriers correspond to the lack of financial resources. Credit restriction, equity capital and lack of external debt are considered to be the main hindrance to the growth of SMEs (Becchetti & Trovato, 2002; Pissarides, 1998, and Riding & Haines, 1998). According to empirical evidence the financial institutions behave more conservatively while providing loans to SMEs. SMEs are usually charged comparatively high interest rates along with high collateral and loan guarantees (Stiglitz & Weiss, 1981).

3.3 Factors Affecting Employees Poverty Status

3.3.1Introduction

The policy makers in developing countries have focused on global reconsideration of priorities regarding public expenditures to pursue an efficient allocation of scarce resource. Within this perspective, the poverty analysis has always provoked the researchers, public authorities and international organizations (World Bank, UNO, IL0, IFAD, NGOs) to device such policies and establish the necessary measures to eliminate this flail. Major objective and priority of the public policy of all economies is to eradicate

this social dilemma, to improve the living standards of people and to reduce the income inequalities among different social segments.

3.3.1.1 Development of Concept of Poverty

Multidimensionality of the concept of poverty is being evident from academic sources reviewing various quantitative methods for measuring poverty (Sen, 1997; Foster & Sen, 1997; Greeley, 1994; Lipton & Ravallion, 1995, and Narayan Deepa, 2000). The concept of poverty has been extensively defined with reference to difference in countries, cultural and socio-economic contexts. Conceptualization of poverty can be traced back at least to the establishment of medieval England's laws, through the pioneering empirical studies by Booth (1889) in London and by Rowntree (1901)[103]. During 1960s, main emphasis was on income level, revealed by macro-economic indicators of Gross National product per head correlating with growth (Pearson Commission, 1969).

During 1970s, concept of poverty was highlighted by work of Runciman (1966) based on relative deprivation in UK, and Townsend (1954) in terms of redefining the concept of poverty as not only lacking the ability to meet minimum nutritional and subsistence requirements, but also lack resources to maintain the standards customary in the society.

Moreover, the renowned speech to the World Bank Board of Governors by Robert Mac Namar's in Nairobi (1973), and the publication of Redistribution with Growth (1974) have contributed to the establishment of poverty as an important issue. Afterwards, emphasis was laid to broaden the perception regarding income-poverty by integrating socially provided basic needs. Consequently the concept of poverty has incorporated the issues regarding limited access to health, education and other services along with lack of income (ILO, 1976).

Further developments in the 1980s regarding elaboration of concept of poverty resulted in incorporation of non-monetary aspects of powerlessness and isolation, facilitating to enhance the participation role of poor along with an increased emphasis on gender studies focusing on women empowerment. The concepts of vulnerability and security enhanced the perceptive of seasonality and distresses like droughts and floods,

[103] Rowntree's work is considered to be pioneer to construct poverty standards for individual families, based on nutritional estimates and other requirements.

asserting the utilization of resources as buffers. Amartya Sen (1981) highlighted that income was only valuable as it can enhance the individual's competence and thus participating well in society.

The concept of poverty was further developed in 1990s, with UNDP developing the concept of human development as lack of prospects and options for a healthy, long and creative life with a decent living standard, independence, self-respect, confidence and the respect for others.

- **Construction of Poverty Profile**

The determinants of poverty can be classified as macroeconomic and microeconomic in nature. As the present study is based on microeconomic determinants of poverty, so the major emphasis lies on the individual characteristics of employees of Light Engineering sector of Gujranwala, Gujarat and Sialkot districts. The socio-economic along with demographic determinants of poverty are discussed as follows:

3.3.2 Economic Determinants of Poverty

Economic determinants of poverty include participation rate, skill level of employees, job satisfaction, female male ratio (workers) and household property and assets.

3.3.2.1 Participation Rate

Household employment can be determined with the help of different indicators. Among these determinants, the rate of participation in the labor force, changes in jobs and the unemployment rate are mainly focused by economists (Chaudhary, 2009 and Haq, 2005). The participation rate is considered to be an imperative variable relating to employment status of the household (Haq, 2005). Poor health, lower per capita income, disability, intensive religious and customs beliefs, lower status and general welfare level along with minimal asset holdings are considered as main factors for lower participation rate in LDCs (Lipton, 1983). The incidence, severity and depth of poverty decline with increase in the participation rate (Chaudhary et.al, 2009). In the present study, participation rate is defined as ratio of the number of workers to the number of adults in a household. The participation rate is anticipated to be negatively associated with the probability of being poor in the light of above statement.

3.3.2.2 Skill Level of Employee

As the study is based on poverty profile of employees of exporting and non-exporting Light Engineering Units operating in Gujarnwala, Gujarat and Sialkot districts, the factor of skill level of employees is considered to be an important variable. Income level of employees was found to be directly affected by their positioning on skill map. An employee with higher level of skill and experience is expected to earn more as compared to one with minimal skill and experience in relevant job. Therefore it is proposed that higher skill level reduces the chances of an employee to fall below the poverty line.

3.3.2.3 Job Satisfaction

The factor of job satisfaction is involved in the analysis both in uni-variate and multivariate context. Job satisfaction reveals that the employee is duly contented with his job as far as monetary and non-monetary aspects are concerned. SMEs being the largest source of accommodating non-farm labor force are contributing indirectly towards poverty reduction. An indication that an employee is satisfied from his current job represents his sense of achievement and success regarding present job. It is found to be linked directly with productivity along with employee's well-being. The factor of job satisfaction leads to enhancement of income opportunities along with getting other goals reducing the chances of employee being considered as poor.

3.3.2.4 Agricultural Income

In the late 1990s, the stability of Gini ratio of per capita expenditure in rural areas demonstrates that the growth of agricultural income has contributed in reducing poverty of Kyrgyz Republic (Azizur Rahman, 2007). According to IFPRI data, less inequality in land ownership and less diversified agricultural income helped reducing poverty in canal colony areas of Punjab (World Bank, 2002). Areas where population seems to be heavily reliant on agriculture for their survival, along with the agricultural sector acting as main income generating source available on one hand and center of all economic activities on the other, a variation in the agricultural income effects heavily to the levels of poverty in Chinga and Nihessiue (CMI report, 2006). The present study is going to investigate the impact of presence of agricultural income as an additional source of income on the well being of employees of exporting and non-exporting units.

3.3.2.5 Physical Assets

According to literature, poverty is related to a variety of characteristics of a household such as those relating to education, demography, community, physical assets and infrastructure (Chaudhary, 2009; Bruck & Schindler, 2007, and Piachaud, 2002). In the present study, physical assets comprises of household appliances i.e. electronic goods and means of transportation as motor cycle or bicycle along with agricultural equipment and machinery, i.e., tractors and accessories, etc., and livestock etc. These are considered according to the rupee value of total physical assets (Chaudhary et.al, 2009). Possession of physical assets like land or livestock reduces the probability of being poor by 55 per cent in rural Pakistan (Pasha & Jamal, 2001). Therefore, possession of physical assets can be utilized as an efficient instrument for poverty reduction.

3.3.2.6 Female Male Ratio (Workers)

The gender issue plays a vital role in poverty analysis. The significance of female-male ratio or sex ratio in a household is well established to find out their approach toward work. Although it is assumed that female household members in both urban and rural Pakistan are restrained by customs from working outside. The severity of cultural norms is severe in rural areas as compared to urban areas suggesting that a high female-male ratio might be associated with household poverty (Chaudhary, 2009). Lower female-male ratio of workers is found to have a negative relation to depth, incidence and severity of poverty (Malik, 1996).

The severity of poverty is more intense in households having a high female-male ratio of workers mainly because of the fact that females in the rural areas are mostly engaged in agricultural sector, characterized with high degree of disguised unemployment (Chaudhary, et.al, 2009). Significant assertion of the importance of female labor force participation is found to be in rural areas of Southern Punjab implying that increase in this ratio leads to lower the probability of being poor[104](Chaudhary, 2009).

[104] Factors responsible for this result were found as household size, distribution by landholding size, educational level, participation rates, dependency ratio, age of the household head and female-male ratio.

3.3.3 Social Determinants of Poverty

In addition to the economic indicators, social indicators are also employed to present a poverty profile. The social indicators generally involve different aspects concerning education, health and shelter of households.

3.3.3.1 Health

Health status of any household can be accessed through their access to safe drinking water, type of sanitation system they use and different types of health facilities they enjoy.

- **Medical Facilities**

Provision of medical facilities is considered to be an important variable affecting the poverty status of an individual. Along with inadequate assets, lack of skill, social capital and savings and credit, unemployment and underemployment and inadequate medical facilities are the main causes of poverty. Moreover, poor have less likelihood to access health facilities; the incidence of medical consultation in case of diarrhea among poor children is 79 per cent as compared to 84 per cent for the non-poor (World Bank, 2002). Access to health facilities can reduce the chances of an employee being categorized as poor.

- **Sources of Drinking Water**

Differences in the sources of drinking water give vital clues about the fact that poor have limited access to the safe drinking water. Poverty was found to be 23 per cent in households with main source of piped drinking water as compared to 46 per cent where the main source of drinking water supply is well (Cheema, 2005). Rural areas of Pakistan are found to be characterized with unsafe drinking water conditions (Housing census of Pakistan, 1998). Health status of people is directly affected by availability of safe drinking water (Haq, 2005). Deprived access to drinking water supply and proper sanitation system consecutively increases the chances of worse health condition of poor as compared to non-poor. Households enjoying the facilities of gas, electricity, piped drinking water, telephone, and proper sanitation system have less probability of being poor in contrast to those having less access to these facilities with broad disparity between rural and urban areas (Cheema, 2005). In general safe drinking water and sanitation are believed to influence nutritional and health status of the household (Chaudhary, 2009). Poor access to critical infrastructure can be considered as the basic reason that 24 per cent of the poor depend on unsafe sources for drinking water as compared to 19 per cent of the non-poor in Pakistan (World Bank, 2002).

- **Sanitation System**

Large proportion of rural households in Punjab live without any drainage system with about 42 per cent having open drains and 56 per cent without any sanitation system (Pakistan Integrated Household Survey, 2001-02). Majority of poor households were

found to have no sanitation system in the union council of Dhamayal (Haq, 2005). 27 per cent of poor were found to live in houses with flush toilet as compared to about 55 per cent of non-poor[105]. Per cent age of population living below poverty line is about 46 per cent where households have no toilet in their houses as compared to 14 per cent of households with flush connected to public sewerage in their houses. Unavailability of proper sanitation system increases the chances for poor from suffering poor health as compared to non-poor (Cheema, 2005). The present study is going to investigate the nature of sanitation system on the well being employees of exporting and non exporting firms.

3.3.3.2 Education

Education and training are the most important investments in human capital (Becker, 1993). Education plays a vital role in acceleration of economic growth which in turn reduces poverty. Therefore, the relationship between education and poverty requires much attention. There exists an inverse association between education of the household and poverty (Haq, 2005). Education plays an important role in the labor market as individuals with higher education[106] have greater chances to get employed and earn comparatively higher income (Nasir, 2001). The higher education of household members are more likely to be associated with greater incomes and thus, having lesser chances to fall below poverty line (Cheema, 2005).

Education is proved to be a critical pathway out of poverty. As far as Pakistan is concerned, literacy and elementary education can contribute positively in improving the household's welfare (Arif and Bilquees, 2007). Higher degree of educational attainment is associated with greater employment opportunities. Different types of indicators are usually employed to characterize education in a household living standard analysis. These involve the factors of gross primary school enrollment rate and educational codes.

- **Gross Primary School Enrollment Rate**

Gross primary school enrollment rate is an important indicator of educational attainment in a country like Pakistan (Chaudhary et.al, 2009). Pakistan is characterized with low school enrollment, net primary enrollment rate are about 37 and 59 per cent

[105] In rural areas 65 percent of poor were found to have no toilets in rural areas of Pakistan (Cheema, 2005).
[106] Education improves the quality of labor as human capital is considered as an asset and is an important element in those situations where availability of material assets is highly constrained (CPRC, 2005).

among poor and non-poor are respectively[107] (World Bank, 2002). Education is found to be a key determinant of living standards in Mozambique (South East Africa), with even one individual from a household having education beyond the primary level reduces the probability of being poor (Simler et.al, 2004). Therefore, the impact of gross primary enrollment rate should be considered as an important determinant of poverty analysis.

- **Average Educational Codes per Household**

In the present study, the codes of educational attainment data are allotted according to the following point system:

No education for a household member ---------- 0 points

Education up to secondary level for a household member ---------- 5 points

Education up to college or university for a household member---- 10 points

The educational index is obtained by dividing the total educational points by household size. This variable is considered as a major determinant which reduces the probability of being poor and points are allotted to those household members who have completed their education up to secondary level or higher (Chaudhary et.al, 2009). In view of its proposed association, a negative correlation with poverty incidence is hypothesized in the present study.

3.3.3.3 Shelter

Shelter is referred as overall framework of personal life of the household. Three components are usually employed to evaluate shelter with respect to poor and non-poor households' i.e. services[108], housing and the environment. The housing indicators comprises of building type (type of materials), the resources through which household has access to the housing facility (ownership or renting), and household equipment (Poverty Manual, 2005).

[107] A 10 percentage point increase in secondary school enrollment is associated with a 0.5 percentage point increase in yearly per capita growth in case of Pakistan by controlling for all the other factors (World Bank, 2002).

[108] The focus of the service indicator involves the availability and the utilization of communications services, safe drinking water, energy sources and electricity (Poverty Manual, 2005).

- **Ownership of House**

Ownership status of dwelling is considered as an important determinant of poverty as it would lower the probability of being poor[109] (Arif & Bilquees, 2007). The ownership of housing unit is considered as the main factor necessary for extricating a household or individual from poverty (Chaudhary et.al, 2009). Insufficient housing facilities lead to a sense of disempowerment and insecurity among the poor (Haq, 2005). The quality of the dwelling is found to reflect the level of poverty of a household. By employing a housing index, 61 per cent households were found to be poor according to the HIES (Household Integrated Economic Survey) data for 1998-99 regarding their housing status (Nazli & Malik, 2003). In rural areas of Pakistan, ownership of poultry, livestock, poultry, residential and non-residential property and land are found to be positively correlated with household expenditure (Jamal, 2005). It can help in smoothing income over a period of time[110]. In both urban and rural areas of Pakistan, property ownership is inversely correlated with poverty (Pasha & Jamal, 2001). There exists a vicious cycle between acquisition of assets and poverty as ownership of dwelling or land is negatively related with both transitory and chronic poverty, implying that land-owners are mostly characterized by non-poor status (Arif & Bilquees, 2007).

- **Type of Housing Structure**

Quality and type of housing unit can be considered as an important consequence of poverty on one hand, but it also contributes to the chances of being poor in the form of unhealthy and unhygienic living conditions leading to a perpetual vicious circle of poverty. It is also recognized that poor households live in inferior and precarious sanitary conditions, which in turn add to the poorer health and thus lowering productivity of household and aggravating poverty (Chaudhary et.al, 2009). The type of housing structure in terms of nature of material used, different housing services and utilities are considered as important determinants of poverty both in rural and urban areas (Jamal,

[109] Being an important component of shelter, it can act as security for borrowing and be sold during difficult times (Arif & Bilquees, 2007).

[110] Grootaert, C., 1997. The Determinants of poverty in Cote d'Ivoire in the 1980's. J. Afr. Econ., 6: 169-196. http://jae.oxfordjournals.org/cgi/content/abstract/6/2/169

2007). The present study has employed the impact of type of housing structure (kacha or packa) on the probability of being poor.

- **Availability of Electricity**

Access to basic amenities is considered as the major factor distinguishing poor from non-poor (Poverty manual, 2005). This preposition is also supported by Pakistan Integrated Household Survey (2001) as about 30 per cent of household fall below poverty line having access to electricity as compared to about 49 per cent having no electricity (Cheema, 2005). Researchers have calculated a simple variable capturing the influence of all basic amenities of life as the infrastructure index. This index is a composite is nature confining to the access to the different facilities: natural gas (fuel), electricity, infrastructural facilities like roads, bank, market, fertilizer depot and other agricultural supporting facilities. Household having access to gas, electricity, telephone, flush toilet and piped drinking water experience lower poverty rates as compared to those without these amenities and there exists wide variations between rural and urban areas (Cheema, 2005). Literature illustrates that the poor are exceptionally deprived of basic amenities of life in the form of access to electricity (Chaudhary et.al, 2009). Lacking access to infrastructure is certainly a universal problem for the poor affecting both their well-being and productivity. About 52 per cent of the poor as compared to 76 per cent of non-poor households were found to live in households with electricity in Pakistan (World Bank, 2002). In the present study, the access to electricity is being discussed as an important contributor towards poverty reduction.

- **Nature of Fuel Used For Cooking**

In a less developing country like Pakistan, poor has to allocate a larger share of their expenditures on their basic requirements like food, lighting and fuel, reinforcing their low level of human development. Therefore they spend less on healthcare and education, which might affect their long-term earning prospective. In Pakistan poor spend a comparatively huge share of their expenditures on food, and particularly in urban areas on lighting and fuel (World Bank, 2002). In this study different option for the fuel used for cooking like Sui gas, wood/charcoal and others are being employed for analytical purposes.

- **Persons per Room**

The factor of persons per room is considered to be an important variable while constructing a poverty profile representing the living conditions of a household. The housing congestion, characterized by persons per room is also incorporated in the welfare function (Jamal, 2004). A greater value of person per room is hypothesized to be positively influencing the well being of an employee of exporting and non-exporting units.

3.3.4 Demographic Determinants of Poverty

Demographic characteristics of households comprises of household size, dependency ratio, female male ratio and age and gender of household head.

3.3.4.1 Household Size

A large household size increases the probability of being poor or remaining in chronic poverty. The impact of household size on poverty is well-known, poverty increases with the increase in household size (Cheema, 2005). Literature suggests that household size, number of marginal earners and dependency ratio are high in poor households as compared to non poor households (Gebremedhin, 2006). Indicators of household size and its structure are significant in the way that they exhibit a possible correlation between the household composition and poverty level (Poverty manual, 2005). Same results have been obtained by research in Philippines that exhibit that the households that consistently fall below poverty line over a period of three years have an average household size of 6.1 in contrast with those that are always non-poor having a size of 4.6 (Reyes, 2002). In both rural and urban areas of Egypt, household size was found to have a significant negative influence on their living standards, as measured by household consumption per individual (Dutt & Jolliffe, 1997).

According to Pakistan Integrated Household Survey 1998-99, poor are more inclined to live in larger households with an average household size of 8.4 in the poorest quintile as compared to 6.2 in the non-poor quintile[111]. It is generally hypothesized that more educated, healthy and adult individuals in a household adds positively to the income level of household and reduces the chances of poverty, if members of household are not educated and adult, they increases the chances of poverty (Chaudhary et.al., 2009). It is

[111] Similar relationship between household size and poverty are also found in different developing and low-income countries (Malik, 1992).

therefore assumed that the larger households are more prone to poverty exposure (Fissuh & Harris, 2004).

3.3.4.2 Dependency Ratio

Dependency ratio can be defined as the number of family members divided by the number of workers/earners in the family[112]. Poverty has a direct relationship with dependency ratio. Incidence of poverty is found to be lowest in 10 per cent of households where dependency ratio is 1 and highest in around 37 per cent of households with dependency ratio greater than three (Cheema, 2005). Dependency ratio is assumed to be high in poor households in contrast to non poor households (Haq, 2005, and Poverty Manual, 2005). This ratio is used to determine the burden weighing on the members of household in the labor force (Poverty Manual, 2005 and Chaudhary et.al, 2009). In the present study, the dependency ratio is calculated as the ratio of the number of household members below 15 and over 64 to other members of the same household. It is therefore expected that a high dependency ratio is positively correlated with the level of household poverty in context of present study. The study has employed total dependency ratio along with child and old age dependency to find out their impact on the poverty status of employees engaged in exporting and non-exporting units.

- **Child Dependency Ratio**

For any household size, larger number of children illustrates the burden on the smaller number of earners in the household. Furthermore, child dependency ratios are calculated by dividing the number of members in age group 0-14 years in a household to the number of members in age group 15-64 years of the same household and expressed as per cent age (Cheema, 2005 and Chaudhary et.al, 2009).

- **Old Age Dependency Ratio**

Old age dependency ratio is defined as the ratio of number of old age members (above 64 years) to the number of members in age group 15-64 years of the same household and expressed in the form of per cent age (Cheema, 2005 and Chaudhary et.al, 2009).

[112] The dependency ratio can also be defined as the ratio of the number of household members not in the labor force including both young and old to those in the labor force of the same household (Poverty Manual, 2005).

3.3.4.3 Female Male Ratio (Households)

The importance of female-male ratio or sex ratio in a household is evident from the fact that it determines the households' attitude toward work (Chaudhary, 2009). Generally, it is believed that female members of the household in Pakistan have to face cultural rigidities in order to work outside from their household, discouraging their active participation in the labor force. Thus, it suggests that a high female-male ratio increases the chances of being poor (Chaudhary et.al, 2009). The present analysis has employed the female male ratio as an important demographic variable to consider its impact on welfare of employees.

3.3.4.4 Age and Gender of Household Head

The age and gender of the household head are considered as central in determining the attitude toward employment. It is commonly believed that the age and gender of the household head significantly influences poverty.

- **Age of Household Head**

Literature suggests contradictory results regarding the importance of age of household head. Age of household head is not always found to be significant in linear terms in all poverty analysis (Fissuh & Harris, 2004), while, it was found significant in case of rural areas of Cholistan in Pakistan, where increase in age of household aggravates the probability of being poor (Chaudhary, 2009 and Chaudhary et.al, 2006).

- **Gender of Household Head**

In developing countries like Pakistan, the women are disadvantaged as compared to men. One determinant of gender gap is either female-headed household are less economically stable as compare to those headed by male. But in contrast to the above argument, the incidence of poverty was found to be higher in households having male heads in contrast to female-headed households (PIHS, 2001-02). 35 per cent of households below poverty were headed by males as compared to female-headed households where this per cent age is about 22 per cent (Cheema, 2005). The present study has tried to investigate the impact of gender of household head on poverty status of the household.

- **Education of Household Head**

Education contributes positively to economic development which in turn reduces poverty. Therefore, the relationship between education and poverty requires much attention. Households where the household head has achieved higher education experience the minimum incidence of poverty (Gebremedhin, 2006). There exists an inverse association between education of the household and poverty (Haq, 2005). The higher educated household head is more likely to attain greater incomes and thus lowering the chances to be poor. According to Pakistan Integrated Household Survey (2001), prevalence of poverty in illiterate household heads is about 43 per cent as compared to about 24 per cent in literate household-heads (Cheema, 2005). The present study has hypothesized that education of household head contributes positively to improve the living standard of household.

3.4 Principal Hypothesis

This section of the present study develops the hypotheses derived from the existing literature and encompasses different determinants affecting the export and growth process of the Light Engineering Units. The main hypothesis is to test the characteristics significantly affecting the firm's process of internationalization, through firm level characteristics, technological and commercial capabilities along with the factors restricting firms to penetrate in international markets. Within this section, the objectives are transformed into the following three broad hypotheses from which further specific hypotheses are also derived:

3.4.1 Factors affecting the Firm's Export Process

3.4.1.1. Firm level characteristics

H1: Firm level characteristics significantly affect the export performance of light engineering units.

- Firm size significantly affects the export performance of light engineering units.
- Firm age significantly affects the export performance of light engineering units.
- Firm's initial investment at the start of project significantly affects the export performance of light engineering units.

- Firm's average revenue significantly affects the export performance of light engineering units.
- Employee's average wage significantly affects the export performance of light engineering units.

Affiliation with trade unions significantly affects the export performance of light engineering units.

- Affiliation with area wise trade unions significantly affects the export performance of light engineering units.
- Affiliation with product wise trade unions significantly affects the export performance of light engineering units.

3.4.1.2 Commercial Capabilities

H2: Firm's Commercial capabilities significantly affect the export performance of light engineering units.

- Product diversification affects the export performance of light engineering units.
- Existence of Trademarks significantly affects the export performance of light engineering units.
- Presence of registered trademarks significantly affects the export performance of light engineering units.
- Utilization of trade fairs for exploration of international market opportunities significantly affects the export performance of light engineering units.
- Utilization of references for exploration of international market opportunities significantly affects the export performance of light engineering units

3.4.1.3 Technological Capabilities

H3: Technological capabilities of the firm significantly affect the export performance of light engineering units.

Innovation process of the firm significantly affects the export performance of light engineering units.

- Product innovation significantly affects the export performance of light engineering units.
- Process innovation significantly affects the export performance of light engineering units.

- Major improvements in existing processes significantly affect the export performance of light engineering units.

3.4.1.4 Export Restricting Factors

H4: Export restricting factors significantly affect the export performance of light engineering units.

- Availability of Information regarding foreign markets significantly affects the export performance of light engineering units.
- Non cooperation of Govt. agencies in the process of internationalization significantly affects the export performance of light engineering units.
- Increased competition in foreign markets significantly affects the export performance of light engineering units.
- Financial problems significantly affect the export performance of light engineering units.
- Cost competitiveness significantly affects the export performance of light engineering units.
- High cost of visiting foreign markets significantly affects the export performance of light engineering units.

3.4.2 Instrumental Variable Approach

In order to capture the impact of innovation on the probability of being an exporter, the approach of instrumental variable has been adopted. Factor affecting directly to the three measures of innovation are included in the instrumental variable approach. Following hypothesis are proposed for the three measures of innovation.

Firm's Technological capabilities significantly affect the innovation process (new product, new process and major improvements) by light engineering units.

- On job training significantly affects the innovation process (new product, new process and major improvements) by light engineering units.
- Utilization of unique know-how significantly affects the innovation process (new product, new process and major improvements) by light engineering units.
- Number of skilled workers employed by the firm significantly affects the innovation process (new product, new process and major improvements) by light engineering units.

Investment strategy adopted by firm significantly affects the innovation process (new product, new process and major improvements) by light engineering units.

- Investment in capacity building significantly affects the innovation process (new product, new process and major improvements) by light engineering units.
- Investment in replacing old equipment significantly affects the innovation process (new product, new process and major improvements) by light engineering units.
- Investment in enhancing productivity significantly affects the innovation process (new product, new process and major improvements) by light engineering units.
- Investment in improving output quality significantly affects the innovation process (new product, new process and major improvements) by light engineering units.
- Investment in producing new product significantly affects the innovation process (new product, new process and major improvements) by light engineering units.
- Investment made for other purposes significantly affects the innovation process (new product, new process and major improvements) by light engineering units.

Owner's perception in starting up new project significantly affects the innovation process (new product, new process and major improvements) by light engineering units.

- Financial problems significantly affect the innovation process (new product, new process and major improvements) by light engineering units.
- Problems regarding market acceptance significantly affects the innovation process (new product, new process and major improvements) by light engineering units.
- Problems regarding hiring of skilled workers by the firm significantly affect the innovation process (new product, new process and major improvements) by light engineering units.

Firm's commercial capabilities significantly affect the introduction of innovation process (new product, new process and major improvements) by light engineering units.

- Utilization of imported raw material by the firm significantly affects the innovation process (new product, new process and major improvements) by light engineering units.

3.4.3 Definition of Variables

The definition incorporated for different factors affecting the growth process of firms employed in this study has been presented in the table 3.1. Detailed list of determinants along with the operational definitions and coding are being described in the following table.

Table 3.1: List of Variables Used for Logistic Estimation of Firm's Export Performance

Determinants	**Measures**
Dependent Variable	
Exporting Incidence	Participated in exporting activities in the years of 2008 and 2009=1; Otherwise=0
Independent variables	
Firms Characteristics	
Firm Size	Number of full-time employees
Firm Age	Number of years since the foundation of the firm
Manufacturing Status	Contractor=1, Subcontractor=2
Area-Wise Trade Unions	1 if the firm is affiliated with the trade union; 0 otherwise
Product-Wise Trade Unions	1 if the firm is affiliated with the trade union; 0 otherwise
Lnrev09*/Month	Log of firm's revenue in 2009
Wage/Emp09	Ratio of total wage to number of employees in 2009 (Pakistan Rs.)
Technological Capabilities	
Innovation	
Newproduct	1 if firm introduces new products; 0 otherwise
Newprocess	1 if firm introduces new production process; 0 otherwise
Modiproduct	1 if firm makes major improvements of existing products or changes specification; 0 otherwise
Investment Strategy	
Inv Capacity	1 if firm invests in their capacity; 0 otherwise
Inv Replace	I if firm invests in replacing old equipment; 0 otherwise
Inv Productivity	I if firm invests in improving their productivity; 0 otherwise
Inv Quality	I if firm invests in improving their quality of output, 0 otherwise
Inv New	1 if firm invests in producing new output; 0 otherwise
Inv Other	1 if firm's investment is for other purposes; 0 otherwise
Owner's Perception In Starting Up New Projects	
Financial Problems	1 if firm's owner perceived the importance of lacking finance in staring up new projects; 0 otherwise

Determinants	Measures
Market Acceptance	1 if firm's owner perceived the Importance of low market acceptance in staring up new projects; 0 otherwise
Lack Skilled Worker	1 if firm's owner perceived the importance of lacking skilled workers in staring up new projects; 0 otherwise
On Job Training	1 if firm normally trains its existing workers or new workers; 0 otherwise
Presence of Unique Know-how	1 if the firm possesses unique know-how; 0=otherwise
Skilled Workers	Number of skill workers
Commercial Capabilities	
Diversification (Product Mix)	Number of industrial sectors in which the firm operates
Trade Marks	1 if firm possess trademarks; 0=otherwise
Registered Trade Marks	1 if firm possess registered trademarks? 0=otherwise
Export Promotion Bureau Trade Fairs	1 if firm participated in Export Promotion Bureau trade fairs; 0=otherwise
Personal Visits And References	1 if firm ever acquired export orders through personal visits and references; 0 otherwise
Import Activities/ Use of Imported Raw Material	1 if firm peruse import activities or use imported raw material in production processes; 0 otherwise
Factors Inhibiting Export Activities	
Availability of Information	1 if firm have enough information regarding export markets; 0 otherwise
Non Cooperation of Govt. Agencies	1 if behavior of government agencies in non-cooperative towards the firm; 0 otherwise
Increased Competition In Foreign Markets	1 if increased completion in the international market is hampering your exports; 0 otherwise
Financial Problems	1 if financial constrains are restricting your growth as exporter; 0 otherwise
Cost Competitiveness	1 if cost competiveness of your products with respect to international market is affecting your export process; 0 otherwise
High Cost of Visiting Foreign Markets	1 if high transportation cost attached with the visiting the foreign markets is affecting your growth as exporters; 0 otherwise

***2009 represents the base year for the survey time period[113].**

Source: Author

[113] The survey was conducted in the time period of February, 2009-february, 2010. Aim of the survey was to acquire the desired information from firms with reference to the year of 2009. Therefore it is considered as base year

3.4.4 The Research Model

Based on the comprehensive literature review, the framework employed for the quantitative analysis of export process of firms belonging to Light Engineering sector has been identified. The Fig 3.1 exhibits the four major categories of factors included in the survey, which were examined to assess their relative impact on the probability of being exporter.

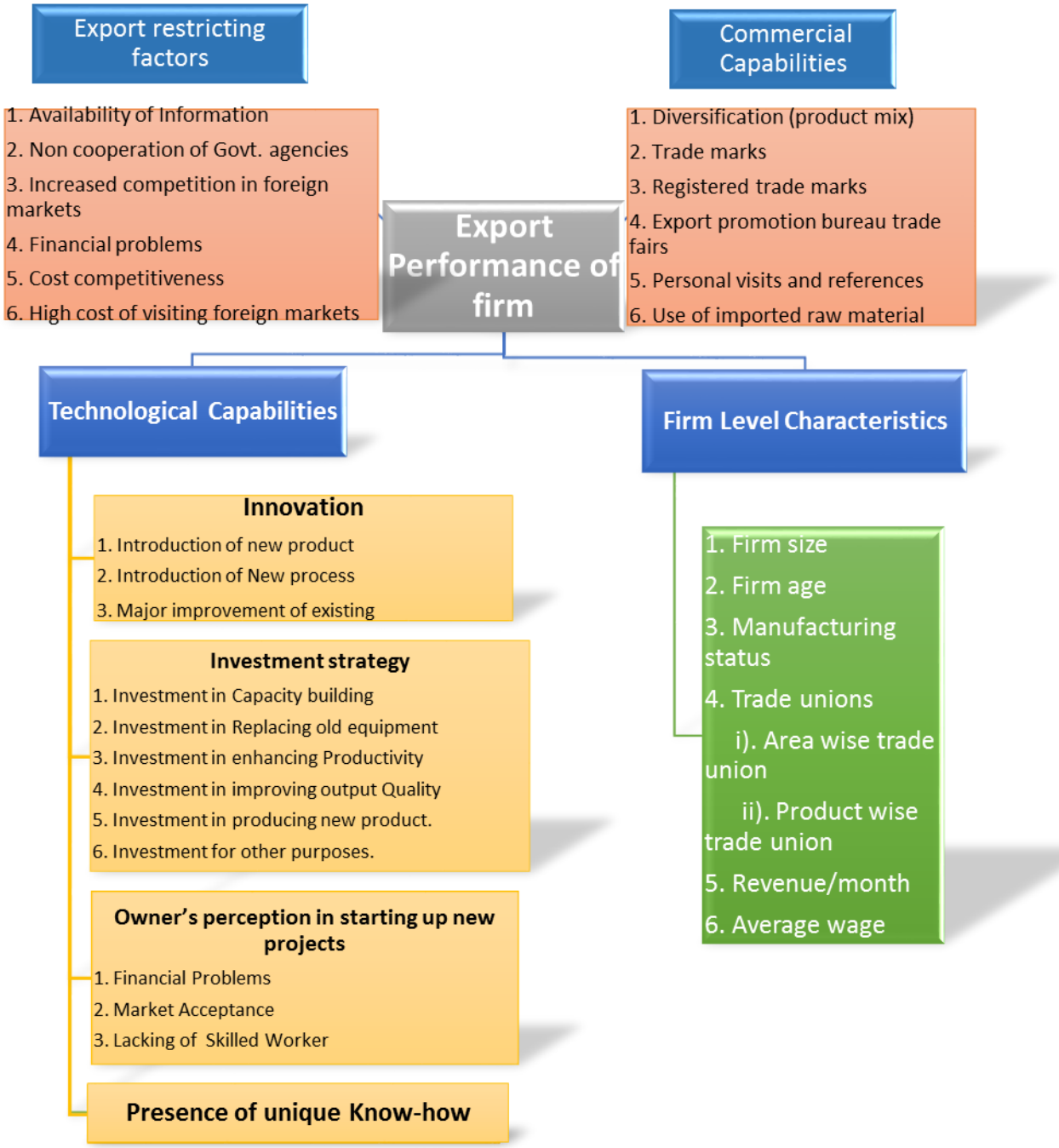

Fig 3.1: Research Model: Export Performance of a Firm

3.5.1 Export and Firm's Growth

The main hypothesis is to test the impact of exporting capacities on the growth process of sampled units in terms of employment generating activities, through firm level characteristics, owner-manager characteristics and factors restricting firm's growth.

3.5.1.1 Firm Level Characteristics

H1: Export process significantly affects the firm level characteristics in terms of explaining the growth performance of light engineering units.

Export process significantly affects the individual firm characteristics in terms of explaining the growth performance of light engineering units.

- Export process significantly affects the firm size in terms of explaining the growth performance of light engineering units.
- Export process significantly affects the firm age in terms of explaining the growth performance of light engineering units.

Export process significantly affects the Organizational/business characteristics in terms of explaining the growth performance of light engineering units.

- Export process significantly affects the product innovation in terms of explaining the growth performance of light engineering units.
- Export process significantly affects the process innovation in terms of explaining the growth performance of light engineering units.
- Export process significantly affects the major improvements regarding existing products in terms of explaining the growth performance of light engineering units.

Export process significantly affects the Technological capabilities in terms of explaining the growth performance of light engineering units.

- Export process significantly affects the share of local market sales in terms of explaining the growth performance of light engineering units.
- Export process significantly affects the external sources of financing in terms of explaining the growth performance of light engineering units.
- Export process significantly affects the product diversification in terms of explaining the growth performance of light engineering units.
- Export process significantly affects the market diversification in terms of explaining the growth performance of light engineering units.

- Export process significantly affects the provision of on job training in terms of explaining the growth performance of light engineering units.
- Export process significantly affects Utilization of unique production processes in terms of explaining the growth performance of light engineering units.

Export process significantly affects the market structural characteristics in terms of explaining the growth performance of light engineering units.

- Export process significantly affects the market orientation in terms of explaining the growth performance of light engineering units.
- Export process significantly affects the change in market share in terms of explaining the growth performance of light engineering units.
- Export process significantly affects price adaptability in terms of explaining the growth performance of light engineering units.

3.5.1.2 Owner-Manager Characteristics

H2: Export process significantly affects the Owner-manager characteristics in terms of explaining the growth performance of light engineering units.

Export process significantly affects the general background of the owner-manager in terms of explaining the growth performance of light engineering units.

- Export process significantly affects the age of owner-manager in terms of explaining the growth performance of light engineering units.
- Export process significantly affects the education of owner-manager in terms of explaining the growth performance of light engineering units.

Export process significantly affects the growth motivation of the owner-manager in terms of explaining the growth performance of light engineering units.

- Export process significantly affects the risk taking propensity on behalf of firm's owner in terms of explaining the growth performance of light engineering units.
- Export process significantly affects the desire of independence on behalf of firm's owner in terms of explaining the growth performance of light engineering units.
- Export process significantly affects the factor of unemployment push on behalf of firm's owner in terms of explaining the growth performance of light engineering units.
- Export process significantly affects the aptitude of part-time business on behalf of firm's owner in terms of explaining the growth performance of light engineering units.

Export process significantly affects management knowhow on behalf of owner-manager in terms of explaining the growth performance of light engineering units.

- Export process significantly affects the factor of entrepreneurial heritage on behalf of firm's owner in terms of explaining the growth performance of light engineering units.
- Export process significantly affects the industrial specific knowhow on behalf of firm's owner in terms of explaining the growth performance of light engineering units.
- Export process significantly affects previous ownership experience on behalf of firm's owner in terms of explaining the growth performance of light engineering units.
- Export process significantly affects partnership experience on behalf of firm's owner in terms of explaining the growth performance of light engineering units.

3.5.1.3 Growth Restricting Factors

H3: Export process is significantly affected by the growth restricting factors in terms of explaining the growth performance of light engineering units.

Export process is significantly affected by the Institutional factors in terms of explaining the growth performance of light engineering units.

- Export process is significantly affected by the restriction of foreign trade regulations in terms of explaining the growth performance of light engineering units.
- Export process is significantly affected by the level of taxes in terms of explaining the growth performance of light engineering units.
- Export process is significantly affected by the factor of country's political instability in terms of explaining the growth performance of light engineering units.
- Export process is significantly affected by the factor of inflation in terms of explaining the growth performance of light engineering units.

Export process is significantly affected by the non-Institutional factors in terms of explaining the growth performance of light engineering units.

- Export process is significantly affected by insufficient market demand in terms of explaining the growth performance of light engineering units.
- Export process is significantly affected by inadequate skilled labor in terms of explaining the growth performance of light engineering units.

- Export process is significantly affected by the factor restricted access to new markets in terms of explaining the growth performance of light engineering units.

Export process is significantly affected by the financial constraints in terms of explaining the growth performance of light engineering units.

3.6.1 Firm's Exporting Status and Employees' Well Being

The main hypothesis is to test the nature of firm as exporters and non-exporters characteristics significantly affecting the poverty status of its employees, through their socio- economic along with the demographic characteristics. Within this section, the objectives are transformed into the following three broad hypotheses from which further specific hypotheses are also derived:

3.6.1.1 Economic Characteristics of Employees

H1: Classification of a firm as exporter significantly affects the poverty status of its employees in terms of their Economic characteristics.

Classification of a firm as exporter significantly affects the poverty status of its employees in terms of factor of household Employment.

- Classification of a firm as exporter significantly affects the poverty status of its employees in terms of factor of participation rate.
- Classification of a firm as exporter significantly affects the poverty status of its employees in terms of factor of female-male ratio (workers).
- Classification of a firm as exporter significantly affects the poverty status of its employees in terms of factor of skill level.
- Classification of a firm as exporter significantly affects the poverty status of its employees in terms of factor of job satisfaction.

Classification of a firm as exporter significantly affects the poverty status of its employees in terms of household property and assets.

- Classification of a firm as exporter significantly affects the poverty status of its employees in terms of factor of agricultural income.
- Classification of a firm as exporter significantly affects the poverty status of its employees in terms of factor of physical assets.

3.6.1.2 Social Characteristics of Employees

H2: Classification of a firm as exporter significantly affects the poverty status of its employees in terms of their social characteristics.

Classification of a firm as exporter significantly affects the poverty status of its employees in terms of their health conditions.

- Classification of a firm as exporter significantly affects the poverty status of its employees in terms of access to medical facilities.
- Classification of a firm as exporter significantly affects the poverty status of its employees in terms of sources of drinking water.
- Classification of a firm as exporter significantly affects the poverty status of its employees in terms of nature of sanitation system.

Classification of a firm as exporter significantly affects the poverty status of its employees in terms of their level of educational attainment.

- Classification of a firm as exporter significantly affects the poverty status of its employees in terms of the factor of gross primary school enrollment rate.
- Classification of a firm as exporter significantly affects the poverty status of its employees in terms of household's average educational codes.

Classification of a firm as exporter significantly affects the poverty status of its employees in terms of their shelter characteristics.

- Classification of a firm as exporter significantly affects the poverty status of its employees in terms of factor of ownership of housing units.
- Classification of a firm as exporter significantly affects the poverty status of its employees in terms of nature of housing structure.
- Classification of a firm as exporter significantly affects the poverty status of its employees in terms of the availability of electricity.
- Classification of a firm as exporter significantly affects the poverty status of its employees in terms of nature of fuel used for cooking.
- Classification of a firm as exporter significantly affects the poverty status of its employees in terms of the factor of persons per room.

3.6.1.3 Demographic Characteristics of Employees

H3: Classification of a firm as exporter significantly affects the poverty status of their employees in terms of their demographic characteristics.

- Classification of a firm as exporter significantly affects the poverty status of its employees in terms of the factor of household size.
- Classification of a firm as exporter significantly affects the poverty status of its employees in terms of the female male ratio (household).

Classification of a firm as exporter significantly affects the poverty status of its employees in terms of their household dependency ratio.

- Classification of a firm as exporter significantly affects the poverty status of its employees in terms of their child-dependency ratio.
- Classification of a firm as exporter significantly affects the poverty status of its employees in terms of their old age-dependency ratio.

Classification of a firm as exporter significantly affects the poverty status of its employees in terms of the age and gender of their household head.

- Classification of a firm as exporter significantly affects the poverty status of its employees in terms of age of household head.
- Classification of a firm as exporter significantly affects the poverty status of its employees in terms of education of household head.

Chapter 4

Research Process

4.1 Introduction

The increasing trend of globalization has extended the domain of market and competition for an enterprise from domestic markets to the international markets. The role of small and medium enterprises (SMEs) as prominent players in international markets is now well recognized. Rapid increase of the population in a developing country like Pakistan asks for the generation of employment opportunities on the same rate in order to improve their living standard along with a steady economic growth. SMEs are considered as a better mean for providing employment opportunities[114]. Limited research has been conducted in Pakistan to analyze the role of small and medium enterprises in the process of internationalization and generation of employment opportunities. The present study can be considered as an attempt to explain and investigate different determinants of export orientation and its affect on the growth process of light engineering sector in terms of job creation. The different dimensions of process of internationalization can be measured along with its specific determinants, by employing a detailed firms' survey with the help of a multi-topic questionnaire.

Considerable research has been conducted in Pakistan to analyze different dimensions and extent of poverty[115] with reference to different time periods and areas. The utilization of different determinants of poverty in the form of a multi-variable analysis can be considered as an extension to the poverty profile analysis because it attempts to investigate the causal impact of specific household characteristics on household welfare. The present study is an attempt to explain and investigate the impact of nature of a form as exporter or non-exporter on the poverty status of its workers.

The present study is mainly based on the primary source of data, collected from the units of light engineering sector of Gujranwala, Gujarat and Sialkot District by the author during February, 2009 to February, 2010. The study is pioneer in its nature, as no empirical study in these districts has so far been conducted to understand different firm's

[114] There are about 3.2 million economic establishments in Pakistan, 99 percent of these are accorded as SMEs, and accommodate about 80 percent of non-farm labor force (Economic Census of Pakistan, 2005)

[115] Naseem, 1973; Alluadin 1975; Mujahid, 1978; Irfan and Amjad, 1984; Malik, 1991 and Zaidi, 1992 etc.

characteristics including firm level characteristics, technological and commercial capabilities along with different factors restricting firms to enter in international markets and their consequent impact on firm's growth and poverty status of their employees. The study has employed different qualitative and quantitative techniques to investigate the impact of different characteristics on the probability of being exporter, generating employment opportunities and poverty status of its employees.

4.2 Universe of the Study

The SMEs constitute more than 99 per cent of businesses in Pakistan and all these activities are handled by the private sector. They contribute 99 per cent towards employment generation[116]. Thus the role of SMEs as employment generator is of paramount importance. SMES are considered to be the backbone of the economy of Pakistan. Gujranwala, Gujarat and Sialkot are contributing very positively towards the economy of Pakistan. These cities are collectively known as the Golden Triangle of the Pakistan because of the rapid growth of small and medium enterprises which are considered as the base of industrialization process around the world.

The study is based on Gujranwala, Gujarat and Sialkot districts as they are considered as a hub of light engineering activities as about 30 per cent of light engineering industry is concentrated in this area, with Gujranwala being the major shareholder, having their supply chains and linkages over the whole country. A brief introduction of the profile of the study area is given as:

The city of Gujranwala is situated in the north east of the Punjab. It is considered as the sixth largest city of Pakistan with a population of about 3,401,000 (1998 census)[117]. Gujranwala is located at 74.18° east, 32.16° north and is 744 feet above sea-level[118]. Gujranwala is surrounded by Ghakhar Mandi along with different small towns and villages. Towards its South, lies Lahore which is the provincial capital of Punjab, while in the north, lie Gujarat[119] and Sialkot along the Grand Trunk Road (formally known as G.T. road) leading to Mirpur in Azad Kashmir.

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[116] Economic census of Pakistan, 2005.
[117] http://www.statpak.gov.pk/depts/pco/statistics/pop_major_cities/pop_major_cities.html
[118] http://www.fallingrain.com/world/PK/4/Gujranwala.html
[119] Whereas, Gujarat is situated on the bank of River Chenab about 120 kilometers north of Lahore.

Gujranwala has the privilege to be ranked as the third largest industrial centre in the country after Karachi and Faisalabad. Different types of industries are being developed here on varied scales, with a dominant role of light engineering industry besides leather, textile, electrical engineering, cutlery, ceramics and many others. A brief overview of Gujranwala, Gujarat and Sialkot districts is presented in the table 4.1.

Table 4.1: An Overview of Gujranwala, Gujarat and Sialkot Districts.

	Gujranwala	**Gujarat**	**Sialkot**
Population	3,401,000	2,433,000	2,732,000
Tehsils	Gujranwala, Kamoke, Nowshehra Virkan, Wazirabad	Gujarat, Kharian and Saari- Alamgir	Sialkot , Daska, Pasrur, Sambrial
Number of Industrial Units	7,299	1,052	2,483
Main Industries	AC, Refrigerator ,Deep Freezers, Beverage, Ceramics Products, Chemical, Cutlery, Diesel Engines, Drugs & Pharmaceuticals, Electric Meters, Fans, Cooler, Flour Mills, Foam Manufacturing, G.I., M.S.Pipes, Gas Appliances, Gas Cylinders, Industrial, Burn Gases, Iron & Steel Re-Rolling Mills, Knitted Textile, Leather Garments, Looms, Motor, Pump, Turbines, Paper & Paper Board, Plastic Sanitary Fittings, Sanitary Ware, Sizing of Yarn, Sports Goods, Sugar, Surgical Instruments, Tannery, Textile Processing, Machine, Wire & Cable and Woolen Textile Spinning ,Weaving.	Auto tyres, tubes, cycle tyres, tubes, textile, porcelain, tableware, pottery, ceramics, electric fans, motors, appliances, footwear, etc. In view of the existing industries there exist good prospects for paper, paper board, chip, hard board, electric wire, cables, control meters, capacitors, resisters, fuse-grips, circuit breakers, plastic electrical accessories.	Beverage, Cutlery, Cycle Tyres ,Tubes, Diesel Engines, Leather Garments, Leather Products, Locks, Sugar, Musical Instruments, Readymade Garments, Rice Mills, Sanitary Fittings, Sanitary Ware, Sports Goods, Sugar, Surgical Instruments, Tannery, Vegetable Ghee, Cooking oil

Source: Census of Pakistan, 1989, District report of Punjab Government.

As the main industries of the three districts are overlapping with each other, so this supports the choice of Gujranwala, Gujarat and Sialkot Districts as the Universe of this study with special emphasis on Light engineering Sector.

4.3 Research Design

Earlier investigations regarding orientation of firms in the process of internationalization have been extensively criticized being ethnocentric in nature[120], self-centered[121], apprehensive[122] on the basis of their methodological justifications and too much fragmentation and un-programmatic yielding coherent results[123]. The objections raised by researchers as stated above are interconnected, because most of the studies are based on investigating the export activities in a particular country (Katsikeas, 1991). Some studies having utilized non-stratified samples with insufficient consideration to firms' characteristics regarding firm size, previous experience or industry specifications along with presenting of results at aggregate level without differentiating exporters from non exporters. Keeping in view all these considerations, the capacity to generalize results is somewhat limited leading to consequences which are frequently found to contradictory in nature (Miesenbock, 1988). Moreover, many studies are found to be irrelevant to earlier work, with no contribution in the sequence of the existing literature (Cavusgil & Nevin, 1981).

Methodological prospects regarding research on process of internationalization underline the reality that most of export oriented research is entirely based on quantitative approaches i.e. questionnaires are used to collect data, followed by data analysis by employing different statistical techniques and finally testing of hypotheses takes place. Such export oriented quantitative research is accustomed for yielding conflicting results which are conveniently justified as the result of differences in countries, industries, political situations, time periods, sample sizes etc. Actually difference in the outcome of this type of research is due to the presence of errors and bias involved in the construction of questionnaire and in the process of data collection.

Actuality, the conflicting observations regarding appropriate methodologies adopted for research on export orientation inherent differentials regarding the

[120] Cavusgil, 1982.
[121] Because of the fact they fail to contribute to the existing body of knowledge (Aaby & Slater, 1989).
[122] Cavusgil & Nevin, 1981, and Leonidou & Katsikeas, 1996.
[123] Reid, 1983.

temperament of research revealing basic differences between quantitative and qualitative approaches. Depending upon the scope of the present study, only quantitative approach is employed to investigate the given objectives.

Present study is based on a set of data collected from population of units relating to particular sector of SMEs (Light engineering sector). Field studies are considered to be non-experimental scientific inquiries employed to explore the relationship between variables from institutions, organizations and communities (Kerlinger, 1992). Survey based on large sample grants greater accuracy both in estimating different parameters of population. Cross-sectional field studies based on specific sample survey are characterized with a number of advantages including assortment of a sizeable amount of information from collected sample (Kerlinger, 1992), maximization of representativeness of composed sample and thus improving the generalizing of estimated results (Scandura & Williams, 2000) and information collected through a sample survey is considered to be accurate because of the fact that it is specifically designed to address the proposed research questions (Slatar, 1995).

Household survey is considered as the major instrument used to collect data to analyze poverty. Poverty analysis is mostly based on household survey both at national and international levels[124].

In any survey, the unit of observation is either the household itself or the persons within the household. A household can be defined as a group of individuals living and eating together (Chaudhry, 2009). Household consumption expenditure and household income are used as most common indicators to analyze poverty. Present study is based on a set of data collected from a sample of workers employed in a particular sector of SMEs.

Survey employing large sample grants greater accuracy both in estimating different population parameters and analysis regarding export orientation and its consequent impact on process of job creation. Data generation process has explained the construction of sample frame to analyze different objectives of this study. The research process incorporated in the study was designed to address the research domains comprising of valid research methodologies (Curran & Blackburn, 2001). The SME survey was primarily based on a detailed questionnaire addressing the qualitative and

[124] Deaton, 1998.

quantitative aspects of the surveyed firms. The questionnaire was designed in such a way that it encompasses all the major objectives of the study.

The information acquired through three different questionnaires was utilized to draw inferences about the Firm's export and growth process along with poverty status of the employees of the exporting and non-exporting Light engineering units of Gujranwala, Gujarat and Sialkot districts. Statistical Software of Stata 10 and SPSS 16 were employed for investigative purposes. Employment of two soft wares in this study is justified as SPSS has its roots in the social sciences and the analysis of questionnaires and surveys is one of its core strengths. It is more user-friendly in making complex tables and graphs, along with its ANOVA calculations. Whereas, it is easy to run and interpret logistic regression on Stata.

4.4 Survey Instrumentation

In order to investigate the major factors affecting the export process of a firm, along with its resultant impact on firm's growth and poverty status of its employees, a multidimensional approach was adopted by employing wide range of factors to encompass different aspects of variables. Discriminated analysis was than employed to investigate the factors affecting the export and growth process and well being of the employees of a firm.

4.4.1 Questionnaire Content

The SMEs' survey was primarily based on a detailed questionnaire addressing the qualitative and quantitative aspects of the firms involved in the selected sample covering all the major characteristics of firm's export orientation, job creation and poverty status of their employees. The questionnaire was developed primarily in English language and then translated in Urdu to convey its objectives to the respondents. The questionnaire was filled by a survey team accompanied frequently by author. Survey team was briefed properly regarding major objectives of the study. Respondents were asked to mention their current position among the surveyed SME. The questionnaire was divided into three major sections:

4.4.1.1 Export Process of Firms[125]

This part of the questionnaire was developed to investigate the factors affecting the process of firm's internationalization process of firm on its employment generating opportunities. This component of the questionnaire was further divided into four major sections:

Section 1: Measures of Export Performance

This section was planned to acquire information regarding the export activities of firms under consideration. A firm was assigned an exporting status if it has experienced an exporting activity in the last two years till the survey time according to their tax returns, i.e. during the years of 2008 and 2009.

Section 2: Firm Level Characteristics

This section of the questionnaire was organized to obtain information regarding firm level characteristics comprising of firm size, firm age, manufacturing status as contractor or sub contractor, affiliation with area wise and product wise trade unions, initial investment at the start of the project along with average wage and revenue of the firms.

Section 3: Firm's Technological Capabilities

Questions in this section were organized to collect information regarding technological capabilities comprising of innovation processes[126], investment strategy[127], owner's perception in starting new business[128], provision of on job training, utilization of different techniques of production and number of skilled workers employed by the firm.

Section 4: Firm's Commercial Capabilities

Questions in this section addresses the issues regarding commercial capabilities of a firm consisting of factors like diversification (product mix), presence of trademarks and registered trademarks, utilization of trade fairs, personal visits and links to explore new markets and use of imported raw material in the final production of products.

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[125] Annexure A: questionnaire concerning export process of firms

[126] The innovation process has been differentiated in term of introduction of new product, new process and major improvements in the existing equipments.

[127] The investment strategy involves six components of investment like investment in capacity building, in replacing old equipment, in enhancing productivity, in improving output quality, producing new product and for other purposes.

[128] It involves financial problems, market acceptance and lacking of skilled labor regarding inception of a new project.

Section 5: Export Restricting Factors

This section of the questionnaire contained different questions to probe in detail about the factors inhibiting firms' to penetrate in international markets. Factors hindering firm's international participation involve availability of information, lack of co-operation by government agencies, increased competition in foreign markets, financial problems, cost competitiveness and high cost of visiting foreign markets.

4.4.1.2 Export and Job-Creation[129]

This part of the questionnaire was developed to investigate the impact of internationalization process of firm on its employment generating opportunities. This component of the questionnaire was further divided into four major sections:

Section 1: Measures of Growth Performance

This section was planned to seek information regarding the growth activities of firms under consideration. A firm was assigned a positive growth status if the given firm has experienced employment generating activities in the last two years till the survey time, i.e. during the years of 2008 and 2009. Whereas, a firm was assigned no growth status if the given firm has experienced neither increase nor decrease in employment generating activities in the last two years till the survey time.

Section 2: Firm Level Characteristics

This section of the questionnaire was planned to seek information regarding characteristics relating to firm level comprising of firm size and age, organizational/ business practices[130], technological capabilities[131] and market structure[132]of the firm.

Section 3: Owner-manager characteristics

Questions in this section were designed to collect information regarding Owner-manager characteristics comprising of general background[133], growth motivation[134] and

[129] Annexure B: questionnaire concerning export and job creation

[130] It comprises of innovation process being differentiated in term of introduction of new product, new process and major improvements in the existing equipments along with sources of financing.

[131] It involves diversification (product mix), number of markets dealing with, along with provision of on job training and utilization of unique production processes.

[132] Market structure comprises of market orientation, share in the market and price adaptability.

[133] General background encompasses age and education of the firm owner.

[134] Growth motivation on the behalf of owner/manager of the firm includes risk taking attitude, desire of independence, unemployment push and part time business practices.

management knowhow comprising of family business, industry specific know-how, previous ownership experience and working through partnerships.

Section 4: Growth Restricting Factors

This section of the questionnaire contained different questions to probe in detail about the factors inhibiting firms' growth in terms of employment generating activities. It involves the questions regarding institutional[135], non-institutional[136] and financial along with financial constraints.

4.4.1.3 Firm's Exporting Status and Poverty[137]

This component of the questionnaire was developed to investigate the impact of internationalization process of firm on the poverty status of its employees. This component of the questionnaire was further divided into four major sections:

Section 1: Measures of Poverty Status

This section was planned to seek information regarding the poverty status of employees under consideration. An employee was assigned a poverty status if his per capita per adult equivalent income falls below the calculated poverty line. The present study has employed the inflated poverty line of Rs.1398.23 per month per adult equivalent for the year 2008-09, proposed by Planning Commission for the year 2000-01 for differentiating poor from non-poor.

Section 2: Economic Characteristics of Employees

This section of the questionnaire was planned to seek information regarding characteristics relating to economic profile of households comprising of household employment[138], job satisfaction and household property and assets comprising of agricultural income and physical assets as additional sources of income.

Section 3: Social Characteristics of Households

[135] Institutional barriers comprises of regulations on foreign trade, level of taxes, other regulations, political instability and inflation.

[136] It involves market demand, lacking of skilled labor and access to new markets.

[137] Annexure C: questionnaire concerning export and poverty

[138] It comprises of participation rate, female male ratio (workers) and skill level of employees.

Questions in this section were designed to collect information regarding the health[139], education comprising of gross primary school enrollment rate and average educational codes per household and shelter characteristics[140] of surveyed employees.

Section 4: Demographic Characteristics of Households

This section of the questionnaire contained different questions to probe in detail about the factors regarding demographic characteristics of households in terms of household size, dependency ratios, female male ratio (population) and age of household head.

4.5 Data Generating Process

Data generation is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research question hypotheses, and evaluate outcomes. Regarding the different types of data, primary, secondary and tertiary are considered as the important one. However, in the present study, primary source of data is being utilized by employing a firm level survey.

4.5.1 Sampling and Data Collection

According to the Gujranwala Tax collectrate, the total number of registered units of light engineering sector[141] was about 12650 from Gujranwala, Gujarat and Sialkot Districts in January, 2009. From which sample of 1201 units was selected by employing the Statistical Formula (Arkin and Colton, 1963)

$$n = \frac{NZ^2P(1-P)}{N*d^2 + Z^2P(1-P)} \qquad (4.1)$$

Where

n = sample size

N= Target Population (12650 units)

Z =Area under the Normal Curve (100 per cent) i.e. 3.0 approx

[139] It includes factors like access to medical facilities, sources of drinking water and nature of sanitation system used.

[140] Factors like ownership of house, type of housing structure, availability of electricity, nature of fuel used for cooking and persons per room are included in this category.

[141] Light engineering sector here comprises of seven categories including electric fans, electric motors, electric goods and parts, electrical machinery, washing machines, parts of washings machines and water pumps.

Guessed value of P= 0.50 or 50% per cent for maximum sample Size

d = Acceptable Error i.e. (4.2 per cent or 0.042)

By applying the given values:-

$$n = \frac{NZ^2P(1-P)}{N*d^2 + Z^2P(1-P)} \tag{4.2}$$

$$n = \frac{12650*3*3*0.5*0.5}{12650*0.042*0.042 + 3*3*0.5*0.5}$$

$$n = \frac{28462.5}{24.5646} = 1158.67 \text{ say}$$

Approximately Considered Sample Size= 1201 units

The sample of 1201 was further divided on the basis of seven categories of light engineering units which are electric fans, electric motors, electric goods and parts, electrical machinery, washing machines, parts of washings machines and water pumps stages by adopting stratified sampling technique. At the confidence level of 95 per cent and confidence interval of 2, following formula is being employed for proportionate stratification on both stages.

$$n_h = [N_h / N]*n \tag{4.3}$$

Where

n_h = Sample selected for strata h

N_h = Total population of strata h

N= Total population

n= Total sample selected for all strata.

Table 4.2: Proportionate Stratification on the basis of seven categories of Light Engineering Units

Categories	Population	Sample
Electric Fans	4950	470
Electric Goods/Parts	2623	249
Electric Motors	716	68
Electrical Machinery	42	4
Washing Machines	3560	338
Washing Machines/Parts	432	41
Water Pumps	327	31
Total	12650	1201

Source: Calculated from the Firms Survey Data, 2010.

From total 12650 units of Gujranwala, Gujarat and Sialkot Districts, 1201 units[142] were selected on the basis of proportionate stratification. Total number of employees working in sampled 1201 units was found to be 13021, applying the statistical formula (Arkin and Colton, 1963) for sample selection, a sample of 2025 was selected.

$$n = \frac{NZ^2P(1-P)}{N*d^2 + Z^2P(1-P)} \qquad (4.1a)$$

Where

n = sample size

N= Target Population (13021 units)

Z =Area under the Normal Curve (100 per cent) i.e. 3.0 approx

Guessed value of P= 0.50 or 50% per cent for maximum sample Size

d = Acceptable Error i.e. (3.1 per cent or 0.031)

By applying the given values:-

$$n = \frac{NZ^2P(1-P)}{N*d^2 + Z^2P(1-P)} \qquad (4.2a)$$

[142] Where 470 units are selected from electric fans, 249 from electric goods and parts, 68 from electrical machinery, 4 from electric motors, 338 from washing machines, 41 from parts of washing machines and 31 from water pumps.

$$n = \frac{13021*3*3*0.5*0.5}{13021*0.031*0.031+3*3*0.5*0.5}$$

$$n = \frac{29297.25}{14.76318} \quad =1984.481$$

Say approximately considered sample size is 2025 employees

Finally a sample of 2025 employees was selected from a total of 13021 employees working in 1201 light engineering units. At the confidence level of 95 per cent and confidence interval of 2, following formula is being employed for proportionate stratification of employees among seven categories of Light Engineering Sector.

$$n_h = [N_h / N]*n \qquad (4.3a)$$

Where

n_h = sample selected for strata h

N_h = Total population of strata h

N= Total population

n= Total sample selected for all strata.

Table 4.3: Proportionate Stratification on the basis of Employees of Seven categories of Light Engineering Units

Categories	Employment	Sample
Electric Fans	6186	962
Electric Goods/Parts	1935	301
Electric Motors	855	133
Electrical Machinery	19	3
Washing Machines	3331	518
Washing Machines/Parts	424	66
Water Pumps	270	42
Total	13021	2025

Source: Calculated from the Firms Survey Data, 2010.

From 13021 employees working in the light engineering units[143] of Gujranwala, Gujarat and Sialkot Districts, a sample of 2025 workers[144] was selected on the basis of proportionate stratification.

4.6 Data Processing

The information which was acquired through the questionnaire was then utilized to draw inferences about the exporting status of the units and its impact on employment generating opportunities and well being of employees engaged in these exporting units.

4.6.1 Reliability Analysis

Reliability analysis is related to the fact that whether the selected factors have a common theoretical ground and the measurement of the specified construct can be duplicated rather than being a random event (Hair et.al, 1995). According to Nunnally (1978), Cronbach's alpha can be employed as a measure to check the reliability of data because of the fact that it evaluates the quality of the data. As far as the acceptable range of Cronbach alpha is considered, the most cited minimum threshold level is suggested as 0.70 (Nunnally, 1978). Other researchers suggest that a reliability measure should have the minimum value of 0.60 acceptable for hypothesis testing (Sekaran, 1992, and Slater, 1995). Cronbach's Alpha can be calculated collectively along with the measurement with respect to loss or gain in alpha when a specific factor is included or excluded from the analysis indicating the necessity to incorporate the factor or not. Statistical software of Stata 10 was employed in order to determine the reliability of different factors included in the study.

4.7 Data Analysis Techniques

After selecting the data collection process, the next step is to explain the analytical techniques employed to find out the factors affecting firm's export potential, growth process and poverty status of their employees in the present study. The present analysis is said to be based on the both qualitative and quantitative analysis. The elementary analysis of data is performed by utilizing firm's profile regarding their exporting and growth status along with the analysis regarding poverty correlates.

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[143] Seven categories of light engineering sector involve electric fans, electric motors, electric goods and parts, electrical machinery, washing machines, parts of washings machines and water pumps.

[144] Where 855 workers are selected from sampled electric fans producing units, 371 from electric goods and parts, 140 from electrical machinery, 8 from electric motors, 542 from washing machines, 67 from parts of washing machines and 42 from water pumps producing units.

4.7.1 Elementary Analysis of the Data

Elementary and descriptive analysis is considered to be necessary before econometric analysis to elucidate and interpret the data collected from the SME's survey. The elementary analysis investigates different factors affecting the process of firms' export and growth process. ANOVA test statistics is being computed to test that whether significant difference do exist in between the firms belonging to the categories of exporters and non-exporters with respect to different factors under consideration.

4.7.2 Logistic Regression Analysis

To estimate the probabilities of being exporter, logistic regression analysis with maximum likelihood estimation is being employed. Instead of taking volume of exports as dependent variable, it is taken as a binary variable, which takes the value 1 when the firm is exporter and 0 when firm is non-exporter. The explanatory variables are classified into four categories, i.e. firm level characteristics[145], technological and commercial capabilities[146] along with different factors inhibiting the entrance of firms in international markets[147]. Technological capabilities comprises of innovation processes[148], investment strategy[149], owner's perception in starting new business[150], provision of on job training, utilization of different techniques of production and number of skilled workers employed by the firm.

Let X denotes the vector of predictors (X_1, X_2, X_3, …….X_k) and let the conditional probability is presented by the following equation

$$P(Y = \frac{1}{x} = \pi(X))$$

[145] Firm level characteristics involve firm size and age, manufacturing status as contractor or sub contractor, affiliation with area wise and product wise trade unions along with initial investment made by firms at the start of the business, average wage and revenue of the firms.

[146] Commercial capabilities of a firm consist of diversification (product mix); presence of trademarks and registered trademarks, utilization of trade fairs, personal visits and references to explore new markets and use of imported raw material in the final production of products.

[147] Export restricting factors comprising of availability of information, lack of co-operation by government agencies, increased competition in foreign markets, financial problems, cost competitiveness and high cost of visiting foreign markets.

[148] The innovation process has been differentiated in term of introduction of new product, new process and major improvements in the existing equipments.

[149] The investment strategy involves six components of investment like investment in capacity building, in replacing old equipment, in enhancing productivity, in improving output quality, producing new product and for other purposes.

[150] It involves financial problems, market acceptance and lacking of skilled labor regarding inception of a new project.

The logistic regression model (Harvel, 2001) is defined as:

$$\pi(X) = \frac{1}{1+e^{X\beta}} \qquad (4.4)$$

Where $\pi(X)$ = the success probability of value X, $X\beta$ stands for $\beta_0 + \beta_1 X_1 + \beta_2 X_2 + ...\beta_k X_k$, e=exponent or the base of the system of natural logarithms.

Its transformation generates:

$$Odd = \frac{\pi}{1-\pi}$$

Logestic regression equation can be expressed as

$$Logit[\pi(X)] = \log\left[\frac{\pi(X)}{1-\pi(X)}\right] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + ... + \beta_k X_k \qquad (4.5)$$

The interpretation of a probability model can be simply done in terms of odd ratios. A value of odd ratio greater than 1 indicates the increase the probability of being exporter while less than one indicates the decrease in the probability of being exporter.

The direct interpretation of coefficients of a logit model is difficult in the way that they only give information regarding the effects of the explanatory variables on odd ratios. For categorical variables, a positive coefficient indicates an increase in the log odds for the particular category relative to a reference category, while a negative coefficient indicates decreased log odds. To interpret the effect on independent variables on the probability of being exporter, marginal effects of explanatory variables on dependent variable are also calculated. These marginal effects represent the instantaneous rate of change in dependent variable due to per unit change in independent variable of interest. As the marginal effects are being calculated for categorical variables also in this process, by incorporating the incremental affect as (difference in treatment effects when the variable of interest goes from 0 to 1, holding all other variables constant) as a finite difference.

The marginal effects are given as:

$$\frac{\partial E[y/x]}{\partial x} = \wedge('x\beta)[1-\wedge('x\beta)]\beta \quad (4.6)$$

Log Likelihood Ratio[151] and LR Chi-Square[152] tests are used to test the null hypothesis that all the slope coefficients in the model are zero.

The estimated effect of a regressor on an outcome is inconsistent when that regressor is determined simultaneously with that outcome. Instrumental variables estimation is a means of obtaining consistent parameter estimates in this situation. The best-known form of instrumental variables is two-stage least squares; and non-linear models such as logistic regression. Basic research model is expressed as

$$Export = a_0 + a_1 X + a_2 Innovation + e \quad (4.7)$$

Where

Export=1 (if firm is exporter)

= 0 (if firm is non exporter)

X= firm's characteristics, technological capabilities, commercial capabilities and factors inhibiting export activities. Where innovation can be measured in terms of innovation in new product, in new process and major improvements in the existing product and *e* is expressed as error term.

Out of the major determinants effecting firm's export performance, innovation has found to have an endogenous relationship with exports. So, the direct estimation of the eq. 4.7 would lead to a biased estimate of causal impact of innovation on exports.

Two approaches can be employed to deal with this problem of endogenity. These approaches are the instrumental variable approach and simultaneous equation technique. While in the present study an instrumental variable approach has been employed (Foster, 2002). Employed instruments are required to be un-correlated with the error term in 4.7 and also with the predictor variable. In order to utilize the instrumental variable approach, the first step is to explore those variables that are highly correlated with innovation but not with exports.

[151] This is the log likelihood of the fitted model. It is used in the calculation of the Likelihood Ratio (LR) chi-square test of whether all predictor variables' regression coefficients are simultaneously zero and in tests of nested models.

[152] This is the LR test statistic for the omnibus test that at least one predictor variable regression coefficient is not equal to zero in the model.

Following specification is used as instrumental variable technique.

$$Innovation = b_1 + b_2 Z + e \quad (4.8)$$

Where innovation= 1 (If Firm innovates)

=0 (If Firm does not innovate)

Where Z is the instrumental variable and it comprises of Investment strategy adopted by a firm, owner's perception in starting up new projects, on job training, presence of unique know-how, number of skilled workers in the firm and use of imported raw materials in the final product.

The specification expressed as 4.8 is then utilized to find out the impact of instrumental variables on the three components of innovation as

$$Product\ Innovation = b_1 + b_2 Z + e \quad (4.8a)$$

Where Product innovation= 1 (If Firm innovates a new product)

=0 (If firm does not innovate a new product)

$$Process\ Innovation = b_1 + b_2 Z + e \quad (4.8b)$$

Where process innovation= 1 (If Firm innovates a new process)

=0 (If Firm does not innovate a new process)

$$Major\ improvements = b_1 + b_2 Z + e \quad (4.8c)$$

Where major improvements = 1 (If Firm undergoes some major improvements)

= 0 (If Firm has not made some major improvements)

The fitted values of new product, new process and major improvements after the estimation of the three innovation equations will be then incorporated in final export equation of 4.7 to estimate the probability of being an exporter.

Chapter 5

Results and Analysis

5.1 Investigation Regarding Factors Affecting Firm's Export Process

5.1.1 Composition of Firm's with respect to Exporting Status

In order to present the composition of firm's exporting status, obligatory presentation of distinction between exporter and non-exporter is required. For granting the status of a firm as exporter, it is considered necessary that a firm should have at least an exporting experience in the last two years of 2008 and 2009 according to their tax returns.

Table 5.1: Classification of Firms on the basis of their Exporting Status

Exporting Status	Number	Per cent
Exporter Firms	318	26.48
Non-exporter Firms	883	73.52
Total Firms	1201	100

Source: Calculated from the Firms Survey Data, 2010.

The results of table 5.1 illustrate that 26.48 per cent firms accounting about 318 firms are considered as exporters in the total sample of 1201 firms. Collectively, 883 firms (73.52 per cent) are considered as non-exporters. Further classification of data on the basis of exporters[153] and non-exporters[154] is presented below:

[153] Where 318 exporters comprises of 137 electric fans producing units, 57 units producing electric goods and parts, 2 electrical machinery units, 26 producing electric motors, 82 washing machines firms, 7 producing parts of washing machines and 7 water pumps producing units.

[154] Where 883 non-exporters comprises of 333 electric fans producing units, 192 units producing electric goods and parts, 2 electrical machinery units, 42 producing electric motors, 256 washing machines firms, 34 producing parts of washing machines and 24 water pumps producing units.

Table 5.2: Classification of Exporters and Non-Exporters among seven categories of Light Engineering Units

Categories	Exporters	Non-exporters	Total
Electric Fans	137	333	470
Electric Goods And Parts	57	192	249
Electric Motors	26	42	68
Electrical Machinery	2	2	4
Washing Machines	82	256	338
Washing Machines and Parts	7	34	41
Water Pumps	7	24	31
Total	318	883	1201

Source: Calculated from the Firms Survey Data, 2010.

Among the selected sample of 1201 firms from Gujranwala, Gujarat and Sialkot Districts, 318 were categorized as exporters, and 883 firms as non-exporters.

5.1.2 Descriptive Results and Analysis

The present study is principally based on the primary data source collected from a sample of Gujranwala, Gujarat and Sialkot districts from February, 2009 to February, 2010. The multidimensional firm survey was carried out to explore factors influencing the export process of Light engineering units on the basis of information provided by 1201 firms operating in Gujranwala, Gujarat and Sialkot Districts. Elementary data statistics regarding different determinants of firm's export performance is being discussed in this section. Keeping in view the important role played by SMEs in the foreign exchange earnings in industrialized economies, it is of significant importance to examine how small firms participate in international market and how different factors can contribute in the process of firm's export process. Major determinants undertaken involve firm level characteristics, technological and commercial capabilities along with export restricting factors relating to individual Light engineering Units.

5.1.2.1 Firm Level Characteristics

Among firm level determinants, different characteristics considered involve firm size, firm age and other major characteristics affecting exporting potential of an individual firm. In order to investigate the firm level characteristics of surveyed units belonging to the Light Engineering units operating in Gujranwala, Gujarat and Sialkot districts, a sample of 1201 is considered comprising of 318 exporter and 883 non-

exporter firms. The average number of employees with respect to exporting status is being presented in the table 5.3. The table depicts that average number of employees calculated as 14.269 workers for whole sample[155].

Average firm age is calculated as 18.780 years for total sample. Among the exporters, average firm age is found to be 19.45 years and 18.04 years for non-exporters, indicating that firms relating to non-exporter category have less age as compared to exporter class of firms. Among the 370 firms working as contractors, 315 firms (85.14 per cent) are accorded as exporters and 55 firms (14.86 per cent) as non-exporters. Among the 586 firms having an affiliation with area wise trade unions, 314 firms (53.58 per cent) are categorized as exporters and 272 firms (46.42 per cent) as non-exporters. From the 607 firms found to be affiliated with product wise trade unions, 310 units (51.07 per cent) were categorized as exporters while 272 firms constituting about 48.93 per cent as non-exporters.

Table 5.3: Firm Level Characteristics with respect to Exporting Status

Firm Level characteristics	Exporters	Non-exporters	Total
Average Firm Size (Employees)	22.12	6.78	14.269
Average Firm Age (years)	19.45	18.04	18.780
Manufacturing Status (Contractors) Per cent	85.14	14.86	100.00
Affiliation with area-wise trade union (Per cent)	53.58	46.42	100.00
Affiliation with product wise trade unions (Per cent)	51.07	48.93	100.00
Average Revenue (Rs)	1049701.3	360911.6	543288.9
Average wage (Rs)	10654.8	9509.8	10351.6
Average initial investment (Rs 000)	7945.839	1928.010	3521.407

Source: Calculated from the Firms Survey Data, 2010.

The factors of average revenue[156] and average wage[157] are considered to be crucial variables relating to financial status of the firms. Average initial investment at the

[155] After differentiating exporter from non-exporter, average number of employees is being calculated for both categories. Among the exporter class, average number of employees is found to be 22.12 workers and 6.78 for non-exporters, implying that firms relating to non-exporter category employ less as compared to exporters.

start of the project is calculated as Rs. 3521.407 for total sample. For exporters, average initial investment is found to be Rs. 7945.839, whereas, for non-exporters, it is calculated as Rs. 1928.010, implying that firms relating to non-exporters invest in lesser amount while initiating the project as compared to firms relating with export activities.

5.1.2.2 Technological Capabilities

As far as technological capabilities are concerned, literature relating to innovation and learning processes in developing countries highlights the importance of acquiring technological capabilities as a major determinant of firm's export potential (Lall, 1992, and Bell & Pavitt, 1993). Literature[158] motivates the utilization of imported technology affectively with the help of different firm-specific factors concerned with building technological capabilities. It suggests that in order to utilize imported technologies productively, firms have to invest in research, engineering and training (Lefebvre et.al, 2000).

Table 5.4: Innovation Strategy with respect to Exporting Status (Per cent)

Innovation Strategy	Exporters	Non-Exporters	Total
Introduction of New product	57.59	42.41	100.00
Introduction of New process	53.68	46.32	100.00
Introduction of Major Improvements	59.22	40.77	100.00

Source: Calculated from the Firms Survey Data, 2010.

In order to investigate the technological capabilities of surveyed units belonging to the Light Engineering units operating in Gujranwala, Gujarat and Sialkot districts, a sample of 1201 is considered comprising of 318 exporter and 883 non- exporter firms. Among the 540 firms having introduced at least a new product in the years of 2008 and 2009, 311 firms (57.59 per cent) are accorded as exporters, and 229 firms (42.41 per cent) as non-exporters.

From the 557 firms introducing at least a new process in 2008 and 2009, 299 firms constituting about 53.68 per cent are categorized as exporters, while 259 firms

[156] The table 5.4 depicts that average revenue is calculated as Rs. 543288.9 for total sample. Among the exporters, it is found to be Rs. 1049701.3 and for non-exporters it is calculated as Rs.360911.6, indicating that non-exporters have less average revenue as compared to firms relating with export activities.

[157] The survey results depict that average wage is estimated Rs. 10351.6 for total sample. Among the exporters, average wage is found to be Rs. 10654.8 and for non-exporters, it is calculated as Rs. 9509.8, implying that firms relating to non-exporter category have less average wage as compared to firms relating with export activities.

[158] Pietrobelli, 1997; Ernst et.al, 1998, and Rasiah, 2004.

(46.32 per cent) as non-exporters, implying that exporters are involved in more new process introducing activities as compared to non exporters. Among the 493 firms introducing some major improvements in 2008 and 2009, 292 firms (59.22 per cent) are accorded as exporters and 201 firms (40.77 per cent) as non-exporters. Thus, exporters are found to be engaged in introduction of major improvements as compared to non exporters.

In order to investigate the investment strategy among surveyed units belonging to the Light Engineering sector operating in Gujranwala, Gujarat and Sialkot districts, the investment strategy comprising of six components including investment in capacity building, in replacing old equipment[159], enhancing productivity[160], improving output quality[161], producing new product[162] and for other purposes are being investigated.

Table 5.5: Investment Strategy with respect to Exporting Status (Per cent)

Investment Strategy	Exporters	Non-Exporters	Total
Investment In Capacity Building	51.80	48.20	100.00
Investment In Replacing Old Equipment	50.85	49.14	100.00
Investment In Productivity	56.75	43.25	100.00
Investment In Improving Quality	58.93	41.07	100.00
Investment In New Product	57.51	42.49	100.00
Investment In Others	67.34	32.65	100.00

Source: Calculated from the Firms Survey Data, 2010.

Among the 583 firms investing in capacity building in 2008 and 2009, 302 firms constituting about 51.80 per cent are categorized as exporters and 281 firms (48.20 per cent) as non-exporters, implying that exporters are engaged in investing regarding capacity building as compared to non-exporters.

[159] From 588 firms investing in replacing old equipment in the last two years of 2008 and 2009, 299 firms (50.85 percent) are found to be categorized as exporters and 289 firms (49.14 percent) as non-exporters.

[160] Among the 474 firms investing in enhancing productivity in the last two years of 2008 and 2009, 269 firms (56.75 percent) are found to be involved in exporting activities, while 205 firms (43.25 percent) are categorized as non-exporters indicating that exporters are involved in investment activities regarding enhancing productivity as compared to non-exporting firms.

[161] According to survey results, 487 firms were involved in investment activities concerning improvement in product quality during the last two years of 2008 and 2009 exporter firms, comprising of 287 (58.93 percent) exporters and 200 (41.07 percent) non-exporters.

[162] Among the 539 firms investing in new product in the last two years of 2008 and 2009, 310 firms (57.51 percent) were categorized as exporters and 229 firms (42.49 percent) as non-exporters, implying that exporters are more interested in making investment in new product as compared to non-exporting firms.

From 395 firms investing for other purposes during 2008 and 2009, 266 firms (67.34 per cent) are found to be categorized as exporters and 129 firms (32.65 per cent) as non-exporters (Table 5.5). Thus, as whole exporting firms are engaged in making investment for other purposes as compared to non-exporting firms.

Differences in firm's export performance can be explained by the variation in degree of difficulties faced by small firm in their international operations. Entrepreneurs while initiating a new project may face different problems like market acceptance, lacking skilled labor and financial problem (Alvarez, 2004). In order to explore the owner's perception in starting up new product among surveyed units belonging to the Light Engineering units operating in Gujranwala, Gujarat and Sialkot districts, the factors of financial problems, lack of market acceptance[163] and availability of skilled labor are investigated.

Table 5.6: Owner's perception in starting project with respect to Exporting Status (Per cent)

Owner's Perception In Starting Project	Exporters	Non-Exporters	Total
Financial Problems	27.87	72.13	100.00
No Market Acceptance	23.33	76.67	100.00
Lacking Of Skilled Workers	23.60	76.40	100.00

Source: Calculated from the Firms Survey Data, 2010.

From 854 firms facing financial problems in starting up new project during 2008 and 2009, 238 firms (27.87 per cent) are found to be categorized as exporters and 616 firms (72.13 per cent) as non-exporters. According to survey results, 517 firms were found to face problems regarding hiring of skilled labor required for launching of a new project in 2008 and 2009, comprising of 122 (23.60 per cent) exporters and 395 (76.40 per cent) non-exporters. Thus, as whole non-exporters face more constraints regarding hiring of skilled labor during the initiation of a new project as compared to non-exporting firms.

Literature based on the determinants of firm growth considers both human capital and financial resources as most important factors affecting small business growth

[163] Among the 414 firms facing problem regarding market acceptance in starting up new project during the years of 2008 and 2009, 98 firms (23.33 percent) are found to be involved in exporting activities, while 322 firms (76.67 percent) are categorized as non-exporters.

(Wiklund et.al, 2007). Human capital can be measured both in terms of specific and generic terms. Specific human capital can be measured by employing a dummy variable indicating whether firm is offering on job training[164] to its workers or not (Lee & Temesgen, 2005).

Table 5.7: Firm's Technological Capabilities with respect to Exporting Status

Technological Capabilities	Exporters	Non-Exporters	Total
On Job Training (Per Cent)	50.16	49.84	100.00
Presence of Unique Know-How (Per Cent)	54.70	45.30	100.00
Average Skilled Labor (Employees)	6.41	3.56	4.32

Source: Calculated from the Firms Survey Data, 2010.

From the 543 firms possessing some unique know-how regarding production processes, 297 firms (54.70 per cent) were considered as exporters and 246 units (45.30 per cent) as non-exporters, indicating that exporters utilize different techniques of production as compared to non-exporters. The average number of skilled workers is considered to be an imperative variable relating to technological capabilities of the firms. According to the survey results, average number of skilled workers is serving in the Light Engineering Units is found to be 4.32 workers for the whole sample[165].

5.1.2.3 Commercial Capabilities

Literature suggests that firm's market intelligence[166] and marketing capabilities[167] are considered as basics for entrance and expansion in the process of internationalization. Small new high technology firms have capability to overcome complications with technology (Fontes & Coombs, 1997). The present study focuses on the contributions of a wider range of commercial capabilities to export performance, namely diversification[168], trademarks, use of trade fairs, personal visits and use of imported raw materials

[164] Among the 612 firms involved in providing on job training, 307 firms (50.16 percent) were categorized as exporters and 305 firms (49.84 percent) as non-exporters.
[165] Among the exporter class, average number of skilled workers is found to 6.41 workers and 3.57 for non-exporters.
[166] Czinkota, 1982.
[167] Haar & Ortiz-Buonafina, 1995.
[168] Table 5.8 depicts that average product mix in the Light Engineering Units is found to 2.35 for the total sample. Among the exporters, average product mix is estimated as 3.66 and 1.87 for non-exporters.

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Table 5.8: Firm's Commercial Capabilities with respect to Exporting Status

Commercial capabilities	Exporter	Non-Exporter	Total
Average Product Mix	3.66	1.87	2.35
Presence of Trade Marks (Per Cent)	57.06	42.94	100.00
Registered Trade Marks (Per Cent)	73.14	26.86	100.00
Trade Fairs (Per Cent)	92.41	7.59	100.00
Personal Visits/References (Per Cent)	97.52	2.48	100.00
Use of Imported Raw Material (Per Cent)	54.53	45.47	100.00

Source: Calculated from the Firms Survey Data, 2010.

Among the 538 firms possessing trademarks regarding their products, 307 firms (57.06 per cent) were categorized as exporters and 231 firms (42.94 per cent) as non-exporters. From the 242 firms having registered trademarks regarding their products, 177 firms (73.14 per cent) are accorded as exporters, while 65 firms (26.86 per cent) were categorized as non-exporters.

The exhibitions and trade fairs organized by different government and non government associations have proved to be very helpful in providing opportunities to small firms in order to break into international markets by bringing buyers and sellers from different parts of the world simultaneously at the same place[169] (Vohra, 2008). Among the 242 firms involved in utilizing personal visits and references abroad in order to explore exporting opportunities, 236 firms (97.52 per cent) were accorded as exporters while 6 firms (2.48 per cent) as non-exporters. Imports of disembodied technology are found to affect firm's productivity in a significantly positive manner (Hasan, 2002). From the 519 firms being involved in utilizing imported raw material in the process of production, 283 firms (54.53 per cent) were found to be involved in exporting activities and 236 units (45.47 per cent) as non-exporters.

[169] Among the 158 firms facilitated by trade fairs in order to explore exporting opportunities, 146 firms (97.41 percent) are considered as exporters and 12 firms (7.59 percent) as non-exporters.

5.1.2.4 Export Restricting Factors

SMEs are obstructed by different factors like availability of information, non-cooperation of Government agencies[170], foreign markets' competition[171], financial difficulties and problem of cost competitiveness faced while operating in international markets. These factors are taken into consideration to analyze their impact on the probability of being exporter.

Table 5.9: Firms' Export Restricting Factors with respect to Exporting Status

(Per cent)

Export Restricting Factors	Exporters	Non-Exporters	Total
Non- Availability of Information	19.61	80.39	100.00
Non-Cooperative Government Attitude	29.09	70.91	100.00
Competition in Foreign Markets	31.15	68.85	100.00
Financial Problems	28.82	71.18	100.00
No Cost Competitiveness	24.17	75.83	100.00
High cost of Visiting Foreign Markets	28.39	71.61	100.00

Source: Calculated from the Firms Survey Data, 2010.

Among the 413 firms facing problems in the accessibility of information in the process of internationalization, 81 firms (19.61 per cent) were categorized as exporters and 332 firms (80.39 per cent) as non-exporters. From the 687 firms complaining regarding financial problems in the process of internationalization, 198 firms (28.82 per cent) were found to be involved in exporting activities, while 489 firms (71.18 per cent) were accorded as non-exporters. According to survey results, 629 firms are found to have the cost of their products not-competitive to the identical products in the international market, comprising of 152 (24.17 per cent) exporters and 477 (75.83 per cent) non-exporters. Among the 715 considering that high cost of visiting foreign markets is one of the main factors that restrict small units from entering in the process of

[170] From the 519 firms complaining about non-cooperative attitude of government in the process of internationalization, 151 firms (29.09 percent) were found to be involved in exporting activities, while 368 firms (70.91 percent) were accorded as non-exporters.

[171] Among the 671 firms complaining about the level of competition in the foreign markets as a major obstacle in their process of internationalization, 209 firms (31.15 percent) were categorized as exporters and 462 firms (68.85 percent) as non-exporters.

internationalization, 203 firms (28.39 per cent) were categorized as exporters and 512 firms (71.61 per cent) as non-exporters.

5.1.3 Reliability Analysis

Validity with respect to both convergent and discriminate perspectives was investigated to determine that factors included in the prediction of a particular measure are really contributing towards its predictability. Cronbach's alpha can be considered as the widely accepted measure calculating the average of all possible reliability coefficients.

Table 5.10: Cronbach's Alpha for the Constructs

Constructs	Number of factors	Cronbach's Alpha
New Product	14	0.7669
New Process	14	0.7328
Major improvements	14	0.7643
Export Process	23	0.7630

Source: Calculated from the Firms Survey Data, 2010.

Generally, Cronbach's alpha estimated less than 0.60 are not acceptable, in the range of 0.70 are acceptable, greater than 0.80 are considered as the data has good internal consistency reliability. The estimated coefficient of Cronbach's alpha for the export performance (0.7630) exceeded the acceptable level of 0.70 to be considered acceptable.

5.1.4 Analysis of Variance Tests

Elementary and descriptive analysis is considered to be necessary before econometric analysis to elucidate and interpret the data collected from the SME's survey. The elementary analysis investigates different factors affecting the process of firm's export performance. ANOVA test statistics is being computed to test that whether significant differences do exist among the categories of firms categorized as exporters and non-exporters.

Table 5.11: ANOVA test results between Independent variables and Firm's Export Performance, 2010

Factors affecting Exporting Status	One Way ANOVA
	F-statistics
Average Firm Size	1.143e3***
Average Firm Age	5.672**
Manufacturing Status (Contractor)	1.808e3***
Affiliation with area-wise trade union	35.523***
Affiliation with product wise trade unions	341.729***
Average Revenue	994.29***
Average wage	722.7***
Initial investment at the start of project	123.664***
Introduction of New product	105.344***
Introduction of New process	3.299*
Introduction of Major improvements	4.442**
Investment in capacity building	22.599***
Investment in replacing old equipment	15.073***
Investment in productivity	5.034**
Investment in improving Quality	32.448***
Investment in new product	102.34***
Investment in others	5.715**
Financial Problems	2.940*
Market acceptance	3.284*
Lacking of skilled workers	3.874**
On job training	6.712***
Presence of unique know-how	19.447***
Average skilled labor	372.65***
Average product mix	628.664***
Presence of Trade marks	2.779*
Registered Trade marks	67.146***
Trade Fairs	612.780***
Personal Visits/References	2.269e3***
Use of imported raw Material	28.591***
Non- Availability of Information	15.410***
Non-Cooperative Government Attitude	3.217*
Competition in Foreign Markets	17.248***
Financial Problems	4.536**
No Cost Competitiveness	3.633**
High cost of visiting foreign markets	3.328*

Source: Calculated from the Firms Survey Data, 2010.

*** Significant at 90 per cent confidence level**
**** Significant at 95 per cent confidence level**
***** Significant at 99 per cent confidence level**

One way ANOVA (Analysis of variance) test is also performed to determine whether there exist any significant differences between the means of two independent and unrelated categories i.e. exporter and non-exporter in the present analysis. Table 5.11 suggests that there exist significant difference between firms involved in exporting activities and non-exporting activities with reference to the firm level characteristics[172], technological capabilities comprising of innovation processes[173], investment strategy[174], owner's perception in starting new business[175], provision of on job training, utilization of different techniques of production and number of skilled workers employed by the firm, commercial capabilities of a firm[176] and export restricting factors[177].

5.1.5 Logistic Regression Results

5.1.5.1 Introduction

Research in Pakistan is disadvantaged to undertake a comprehensive economic analysis of export orientation at firm level. In the current circumstances, literature relating to the major determinants enhancing the probability of a firm being exporter is insufficient in case of Pakistan. While, this area is of utmost importance which necessitate research in order to understand the main factors affecting the performance of small firms in the international market so that most efficient policies can be designed to induce firms to participate in the international markets. Several analytical techniques can be employed to investigate the causes and determinants of internationalization. Major determinants of export orientation along with elementary data analysis have been already discussed in chapters 3 and 4.

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[172] The factors of firm size, firm age, manufacturing status as contractor or sub contractor, affiliation with area wise and product wise trade unions along with average wage and revenue of the firms are being involved in this category.

[173] The innovation process has been differentiated in term of introduction of new product, new process and major improvements in the existing equipments.

[174] The investment strategy involves six components of investment like investment in capacity building, in replacing old equipment, in enhancing productivity, in improving output quality, producing new product and for other purposes.

[175] It involves financial problems, market acceptance and lacking of skilled labor regarding inception of a new project.

[176] The determinants like diversification (product mix), presence of trademarks and registered trademarks, utilization of trade fairs, personal visits and references to explore new markets and use of imported raw material in the final production of products are categorized as commercial capabilities.

[177] Availability of information, lack of co-operation by government agencies, increased competition in foreign markets, financial problems, cost competitiveness and high cost of visiting foreign markets are being involved in this category.

5.1.5.2 Logistic Regression Models

The important determinants of export orientation among the Light Engineering Units operating in Gujranwala, Gujarat and Sialkot Districts have been already described. The econometric analysis of given determinants is carried out by employing a logit model. In the logistic regression, the endogenous variable of exporting status is considered as a categorical variable, representing 1 for the firm being exporter and 0 for the non-exporter. However, the differentiation between exporters and non exporters is carried out on the basis of involvement in the export activities in 2008 and 2009 as documented in their tax returns. In order to accommodate the impact of innovation on export performance of small firm, instrumental variable approach has been adopted. In the present study, some important quantitative variables have been incorporated along with the dichotomous or qualitative variables. Innovative behavior of a firm is related to its probability of being involved in exporting activities. That's how it is related to the research objective number 1 listed on page 6. Because of the non-linear nature of logistic regression model, the marginal effects of each independent variable on the probability of being exporter are not constant. However, the calculated marginal effects rely on the values of independent variables[178]. Thus in contrast to the linear regression models, the interpretation of the estimated parameters as the consequence of the independent variables is not possible. Yet the computation of the marginal effects of the independent variables on the probability of being exporter is possible to analyze the change. The odds ratios can be expressed as the ratio of the probabilities of being exporters and not being exporters.

5.1.5.3 Estimation and Empirical Results of Logistic Regression Analysis

Logistic regression has been employed as an econometric technique to investigate the major determinants of the internationalization. Particularly, the rationale behind the model is to investigate the important factors explaining the probability of being involved in exporting activities. The estimated results for the districts of Gujranwala, Gujarat and Sialkot are discussed in Table 5.13. The entire results and estimations of logistic analysis are obtained by employing Stata 10 statistical software in the present study.

[178] Greene (1993).

5.1.5.3.1 Logistic Estimates of the Determinants of Innovation Process

Logistic estimates of the major factors affecting process of innovation of firms with reference to product and process innovation[179] along with major improvements in existing processes relating to Gujranwala, Gujarat and Sialkot Districts are presented in table 5.12.

According to the estimated results, number of skilled labor, investment in capacity building, replacing old equipment, in quality improving along with on job training, and use of imported raw material are proved to be significantly and positively correlated with the probability of involvement of a firm in process of innovation like introduction of a new product in 2008 and 2009. Financial problems and inadequate market orientation by firms are found to be significantly and negatively associated with the probability of a firm regarding introduction of a new product. The factors like investment in productivity and in new product, investment for other purposes along with insufficient supply of skilled labor are proved to be insignificant in the present analysis[180].

[179] According to the estimated results, number of skilled labor, investment in replacing old equipment, in productivity and for quality improvement, for other purposes along with on job training, presence of unique know-how and use of imported raw material are proved to be significantly and positively correlated with the probability of involvement of a firm in process of innovation like introduction of a new process in the last two years of 2008 and 2009. Financial problems and lacking of skilled labor are found to be significantly and negatively associated with the probability of a firm regarding introduction of a new process. The factors like investment in capacity building, in new product and along with inadequate market acceptance are proved to be insignificant in the present analysis.

[180] The present analysis has been undertaken by utilizing 1201 observations relating to Districts of Gujranwala, Gujarat and Sialkot. The likelihood ratio chi-square of 599.65 with a p-value of 0.001 tells that the estimated model as a whole fits significantly better than the empty model. The -2 log likelihood (-394.35) has been employed to compare the fit of this model with Model 0. The Pseudo R-squared is considered as improvement from null model to fitted model. The R2 is the Cox and Snell pseudo R square value which is found to be 0.419 in this case.

Table 5.12: Logistic Estimates of the Determinants of Innovation (New Product, New Process and Major Improvements) in total Sample, 2010

	New Product	New Process	Major Improvements
skilledlabor	0.550**	0.381**	0.757***
invcapacit~g	0.494**	0.133	1.218***
invreplaci~p	0.932***	0.512*	1.035***
invproduct~y	0.198	3.178***	0.373*
invquality	0.801***	0.823***	0.469*
invnewprod~t	0.227	0.281	0.215
invother	0.504*	0.370*	0.140
financialp~s	-0.328*	-0.344*	-0.520***
lackingmar~e	-0.602***	-0.170	-0.813***
lackskilll~r	-0.022	-0.724**	-0.538*
Onjontraing	3.297***	0.990***	0.844***
uniqueknow~w	0.316*	1.241***	0.406**
importedra~l	1.246***	1.016***	0.613***
_cons	-9.536***	-9.723***	-6.367***
Log Likelihood	**-394.35**	**-400.48**	**-438.33**
Pseudo R-Squared	**0.4319**	**0.4231**	**0.3686**
LR Chi^2 (13)	**599.65**	**587.38**	**511.69**
No. of Observations	**1201**	**1201**	**1201**
Prob. > Chi^2	**0.000**	**0.000**	**0.000**

Source: Calculated from the Firms Survey Data, 2010.

*** Significant at 90 per cent confidence level**
**** Significant at 95 per cent confidence level**
***** Significant at 99 per cent confidence level**

According to the estimated results, number of skilled labor, investment in capacity building, in replacing old equipment, made for enhancing productivity, for quality improvement along with on job training, unique know-how and use of imported raw material are proved to be significantly and positively correlated with the probability of involvement of a firm in process of innovation like introduction of a new product in 2008 and 2009. Financial problems along with insufficient skilled labor and market acceptance are found to be significantly and negatively associated with the probability of a firm being participated in activities regarding involvement in major improvements in the existing processes. The variable of "investment in productivity is found to be

insignificant in model of Innovation in terms of new product, while it is found to be significantly affecting the probability of a firm following new process and major improvements in production processes. The factors like investment in new product and for other purposes are proved to be insignificant in the present analysis[181].

5.1.5.3.2 Logistic Estimates of the Determinants of Export Performance

Logistic estimates of the major determinants relating to internationalization process of firms belonging to Total sample District is presented in table 5.13. According to the estimated results, firm size, firm age, manufacturing status, diversification (product mix), presence of registered trademarks, participation in promotional activities through trade fairs and personal visits, fitted values of innovation in terms of innovation in new product, new process and major improvements are found to be significantly and positively correlated with the probability of being exporter. Export restricting factors like non-co-operative attitude on behalf of government organizations, competition in foreign markets, financial problems, cost in competitiveness and expensive foreign trips are found to be significantly and negatively associated with the probability of being exporter. The factors like initial investment made by firm at its inception, affiliation with area and product wise trade union, average revenue and wage, trademarks, participation in promotional activities through references, non availability of information regarding foreign markets are proved to be insignificantly affecting the probability of being exporter.

[181] The present analysis has been undertaken by utilizing 1201 observations relating to Districts of Gujranwala, Gujarat and Sialkot. The likelihood ratio chi-square of 511.69 with a p-value of 0.001 represents that the estimated model as a whole fits significantly better than the empty model. The -2 log likelihood (-438.33) has been employed to compare the fit of this model with Model 0. The Pseudo R-squared is considered as improvement from null model to fitted model. The R^2 is the Cox and Snell pseudo R square value which is found to be 0.3686 in this case.

Table 5.13: Logistic Estimates of the Determinants of Firm's Export in Total Sample, 2010

exportersy~1	Coefficient	P>|z|	Odd ratios	Marginal Effects
employment	0.895***	0.000	2.447	0.107
Firmage	1.241***	0.000	3.457	0.178
investment	0.243	0.269	1.275	0.034
manufactur~s	1.025***	0.001	2.786	0.142
Afftradeun~t	-0.261	0.319	0.770	-0.038
areawiseaff	-0.127	0.489	0.881	-0.018
averagerev~e	0.180	0.352	1.197	0.025
averagewage	0.185	0.321	1.203	0.026
diversific~C	0.374*	0.087	1.454	0.052
trademarks	0.024	0.910	1.024	0.003
registered~s	0.954***	0.000	2.595	0.137
tradefairs	0.017*	0.097	1.017	0.002
refrences	-0.259	0.147	0.771	-0.038
nonavailab~n	-0.206	0.122	0.814	-0.030
noncoperat~v	-0.325*	0.089	0.722	-0.048
competionf~s	-1.685***	0.000	0.185	-0.268
financialp~s	-0.716**	0.012	0.488	-0.102
costincomp~s	-1.399***	0.000	0.247	-0.217
highpriced~s	-0.768***	0.000	0.464	-0.124
majorimp	0.446**	0.015	1.562	0.063
newprocess	0.387**	0.036	1.472	0.055
newproduct	0.282***	0.000	1.326	0.041
_cons	-5.145***	0.000	--	--

Log Likelihood= -415.49 **Pseudo R-Squared = 0.4015**
LR Chi^2 (21)=557.37
No. of Observations=1201
Prob. > Chi^2=0.000

Source: Calculated from the Firms Survey Data, 2010.

*** Significant at 90 per cent confidence level**
**** Significant at 95 per cent confidence level**
***** Significant at 99 per cent confidence level**

The present analysis has been undertaken by utilizing 1201 observations relating to the Gujranwala, Gujarat and Sialkot Districts. The likelihood ratio chi-square of 557.37 with a p-value of 0.001 tells that the estimated model as a whole fits significantly better than the null model. The -2 log likelihood (-415.49) has been employed to compare the fit of this model with null Model. The Pseudo R-square is considered as improvement

from null model to fitted model. The R^2 is the Cox and Snell pseudo R square value which is found to be 0.4015 in this case. The Pseudo R^2 represents the degree to which the parameters of the model improve the prediction of the null model.

5.2 Investigation Regarding Impact of Exports on Firm's Growth Process

5.2.1 Composition of Firm's with respect to Exporting and growth Status

In the following section the descriptive analysis is done with reference to the export and growth status of surveyed firms. For granting the status of a firm experiencing growth, it is considered necessary that a firm should have practiced a growth in employment in 2008 and 2009. By comparing the level of employment at Feb, 2008 and Feb, 2010, a firm can be assigned the status that whether a firm has experienced growth (increase), has not faced growth (constant) or has practiced negative growth (decrease).

The composition of firms in terms of experiencing increase, decrease and stable change in the employed labor force is presented in table 5.14 with reference to their exporting behavior in the table.

Table 5.14: Classification of Firms on the Basis of Firm's Export and Growth

Firm's Growth	Exporters		Non-Exporters		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Increase	257	80.82	169	19.14	426	35.47
Decrease	18	5.66	382	43.26	400	33.31
Constant	43	13.52	332	37.59	375	31.22
Total	318	100	883	100	1201	100

Source: Calculated from the Firms Survey Data, 2010.

The results of table 5.14 illustrate that in Gujranwala, Gujarat and Sialkot Districts 426 firms[182] (35.47 per cent) of the selected Light engineering Units can be classified as firms having experienced growth in 2008 and 2009. One way ANOVA (Analysis of variance) test is also performed to determine whether there exist any significant differences between the means of two independent and unrelated categories i.e. exporter and non-exporter in the present analysis with reference to their growth experiences (Table 5.26).

[182] Comprising of 257 exporting and 169 non-exporting firms

As far as firms employing same number of workers at the survey time, which it was employing before 2008 are concerned, 375 units[183] (31.22 per cent) of the Light engineering Units in study area can be classified as firms having experienced no growth in terms of employment generation during the last two years. And for firms employing less number of workers at the survey time, which it was employing before 2008 are concerned, 400 firms[184] (33.31 per cent) in sampled Light engineering Units can be classified as firms having experienced negative growth in terms of employment generation during the 2008 2009.

The further classification of data on the basis of different categories of Light Engineering Units experiencing positive growth (257 exporters[185] and 169 non-exporters), negative growth (18 exporters[186] and 382 non-exporters) and no growth (43 exporters[187] and 332 non-exporters) in terms of their exporting and non-exporting status is presented below:

[183] Where, 43 and 332 firms are involved in exporting and non-exporting activities respectively.

[184] Comprising of 18 exporting and 382 non-exporting units.

[185] Where 257 exporting firms experiencing positive growth comprises of 105 electric fans producing units, 65 units producing electric goods and parts, 15 producing electric motors, 1 electrical machinery units, 62 washing machines firms, 4 producing parts of washing machines and 5 water pumps producing units.

[186] Where 18 firms experiencing negative growth comprises of 3 electric fans producing units, 2 units producing electric goods and parts, 3 producing electric motors, 7 washing machines firms, 2 producing parts of washing machines and 1unit producing water pumps participate in international markets..

[187] Where 43 firms experiencing no growth comprises of 23 electric fans producing units, 7 units producing electric goods and parts, 2 producing electric motors, 10 washing machines firms, and 10 water pumps producing units are found to be undergoing process of internationalization during the survey time..

Table 5.15: Classification of Firms on the basis of growth in terms of employment generating activities among seven categories of light Engineering units

Categories	Increase			Decrease			Stable			Total		
	Exporters	Non-Exporters	Total	Exporters	Non-Exporters	Total	Exporters	Non-Exporters	Total	Exporters	Non-Exporters	Total
Electric Fans	105	34	39	3	9	52	3	56	179	31	39	70
Electric Goods/ Parts	5	39	04	2	81	83	7	55	62	74	5	9
Electric Motors	15	10	5	3	27	30	2	11	3	0	48	8
Electrical Machinery	1	1	2	0	1	1	0	1	1	1	3	4
Washing Machines	62	8	30	7	0	07	0	1	01	9	9	38
Washing Machines /Parts	4	10	14	2	16	18	0	9	9	6	35	41
Water Pumps	5	7	2	1	8	9	1	9	0	7	4	31
Total	257	169	426	18	382	400	43	332	375	318	883	1201

Source: Calculated from the Firms Survey Data, 2010.

Among the selected sample of 1201 firms from Gujranwala, Gujarat and Sialkot Districts, 426 firms were categorized as positive growth firms, 400 as negative growth and 375 as no growth firms in terms of generating employment opportunities.

5.2.2 Descriptive Results and Analysis

The present study is principally based on the primary data collected from a cluster sample of SMEs in Gujranwala, Gujarat and Sialkot districts from February, 2008 to February, 2009. Keeping in view the important role played by exports in the economic growth through export led growth or growth led exports hypothesis, it appears essential to examine that how exports of SMEs can contribute in generating employment opportunities at the micro level. The multidimensional firm survey was carried out to explore factors influencing the growth of firms in terms of their exporting incidence on

the basis of information provided by 1201 firms. Elementary data statistics regarding different determinants of firm's growth and exporting status are being discussed in this section.

5.2.2.1 Firm Level Characteristics

Among firm level characteristics, different factors relating to individual firm, organizational/business practices, technological capabilities and market structure are being considered. Individual firm characteristics comprises of firm size (number of employees) and firm age (number of working years). The average number of employees is considered to be an imperative variable relating to growth status of the firms. Table 5.16 depicts that average number of employees is calculated as 6.82 workers for non-exporting firms as compared to 21.98 workers in case of exporters (14.30 workers for total sample).

Table 5.16: Firm Level Characteristics with respect to Firm's Growth and Exporting Status

	Exporter				Non-Exporter			
	Increase	Decrease	Stable	Total	Increase	Decrease	Stable	Total
Firm Size (Average Employees)	24.19	19	12.65	21.98	9.56	5.45	7.01	6.82
Firm Age (Average Years)	20.9	19	19.9	19.7	17.14	18.74	17.45	17.95

Source: Calculated from the Firms Survey Data, 2010.

After differentiating exporting firms with respect to their growth status, average number of employees is being calculated for all the three categories[188]. Average firm age is calculated as 18.780 years for the total sample (19.7 years for exporting firms and 17.95 for non-exporting firms). Among the positive growth category of firms engaged in international market, it is estimated as 20.9 years and 19 years for the category of

[188] Among the positive growth firms, average number of employees is estimated as 24.19 workers, 19 employees for negative growth category and 12.65 workers for no growth class in terms of employment generating opportunities.

negative growth. Average firm age is estimated as 19.9 years for the exporters experiencing no growth.

Among organizational and business practices, different factors of product innovation, process innovation[189] and major improvements in existing product and sources of financing affecting firm's growth with reference to their exporting status are being described in the table 5.17.

Table 5.17: Organizational/Business Practices with respect to Firm's Growth and Exporting Status

Organizational/ Business Characteristics	Exporter				Non-Exporter			
	Increase	Decrease	Stable	Total	Increase	Decrease	Stable	Total
New Product	182	15	32	229	120	334	264	718
New Process	169	10	4	203	103	260	208	571
Major improvements	144	11	23	178	91	215	202	508
External Sources of financing	115	8	19	42	76	128	132	336

Source: Calculated from the Firms Survey Data, 2010.

Among the 947 firms introducing at least a new product in the years of 2008 and 2009, 302 firms (31.89) are found to have experiencing positive growth in terms of employment generation. 182 firms (60.27 per cent) were found to be involved in exporting activities, where as 120 firms (39.73 per cent) practicing positive growth and were categorized as non-exporters. Within the 686 firms introducing at least some major improvements in existing production processes, 235 firms (34.26 per cent) are found to be relating to positive growth category, comprising of 144 exporters (61.28 per cent) and 91 (38.73 per cent) non-exporters.

191 from 478 firms (39.96 per cent) are found to have utilized external sources of financing like banks and financial institutions in order to support their projects during

[189] Among the 774 firms having introduced at least a new process in the last two years of 2008 and 2009, 272 firms (35.15) were found to be categorized as positive growth firms, including 144 exporters (52.95 percent) and 103 (47.05) non-exporters.

2008 and 2009 belong to the category of positive growth, including 115 exporting firms (60.21 per cent) and 76 non-exporting units (39.79 per cent).

Technological capabilities can be defined as "the firm's current ability and its future potential to utilize firm-specific technology to resolve technical problems and to augment the technical functioning of its production processes along with its finished products" (Nicholls-Nixon, 1995). The essential technological components discussed in this study include the factors of product and market diversification, utilization of unique know-how along with on job training capacity of the firm.

Table 5.18: Technological Capabilities with respect to Firm's Growth and Exporting Status

Technological Capabilities	Exporter				Non-Exporter			
	Increase	Decrease	Stable	Total	Increase	Decrease	Stable	Total
Diversification	165	11	29	205	115	259	225	599
No. of markets (average)	5	2	3	4	3	2	2	3
On Job Training (Number)	221	17	33	271	137	338	286	761
Unique Knowhow (Number)	225	16	41	282	135	295	257	687

Source: Calculated from the Firms Survey Data, 2010.

As it is evident from the table 5.18, 280 firms undergoing product diversification are found to be involved in employment generating activities (34.83 per cent) are comprising of more exporters (58.93 per cent) as compared to non-exporters (41.07 per cent).

The average number of markets is considered to be an essential factor relating to growth status of the firms[190]. Firms involved in offering on job training belong to more positive growth firms (34.69 per cent) as compared to firms experiencing negative (34.40

[190] Table 5.18 depicts that average number of markets is calculated as 2 for total sample, whereas, it is estimated as 3 for positive growth category in terms of employment opportunities. Exporting firms are found to be more market diversified as compared to non-exporters.

per cent) or no growth (30.91 per cent). 360 from 969 firms were found to possess unique know-how experienced positive growth including 225 firms (62.50 per cent) involved in export activities and 135 units (37.5 per cent) as non-exporters during 2008 and 2009.

The major force behind a firm's growth is considered to be the market structure in which it operates. The market structure comprises of market orientation of the firm, the ability to adapt its price policy according to market changes and increase in its market share over a period of time.

Table 5.19: Market Structure with respect to Firm's Growth and Exporting Status (Number)

Market Structure	Exporter				Non-Exporter			
	Increase	Decrease	Stable	Total	Increase	Decrease	Stable	Total
Market orientation	177	12	28	217	100	281	240	621
Market Share Increase	166	8	17	191	100	217	193	510
Price adaptability	182	15	32	229	120	334	264	718

Source: Calculated from the Firms Survey Data, 2010.

Among the 834 firms having good orientation regarding market structure, 122 firms (33.06 per cent) were found to be engaged in generating employment opportunities including 177 exporters (63.90 per cent) and 100 (36.10 per cent) non-exporters. Within the 701 firms experiencing increase in market share, 266 firms (37.95 per cent) were found to be belonging to positive growth firms, in terms of employment generating activities comprising 166 exporters (62.41 per cent) and 100 (37.59 per cent) non-exporters. The firm's ability to adapt its pricing policy according to competitive pressures is positively associated with the growth of expected sales. Such capacity of firms to change their market share in response to such pressures helps them to increase their market share accordingly (Harabi, 2005)[191].

[191] Among the 947 firms possessing good perceptive regarding price adaptability, 302 firms (31.89 percent) were found to be categorized as positive growth firms with reference to employment generating capabilities comprising of 182 units (60.27 percent) exports and 120 units (39.73 percent) as non-exporters.

5.2.2.2 Owner-Manager Characteristics

Growth ambition is influenced by owner-manager characteristics including general background, growth motivation, and management knowhow. General background comprising of age and education of the owner[192] with reference to exporting activities of firms is being discussed in the table 5.20.

Table 5.20: Owner-Manager's General Background with respect to Firm's Growth and Exporting Status (Average)

General Background	Exporter				Non-Exporter			
	Increase	Decrease	Stable	Total	Increase	Decrease	Stable	Total
Owner Age	34.06	36.11	31.2	33.79	33.97	33.76	33.96	33.87
Education of Owner (Average Educational Codes)	8.62	5.66	6.58	6.68	5.59	3.73	4.77	4.72

Source: Calculated from the Firms Survey Data, 2010.

The average age of owner of the firm is considered to be an important determinant concerning to owner-manager characteristics with respect to firms growth. The table 5.20 depicts that average age of owners is calculated as 33.82 years for whole sample. It is estimated as 32.75 years for the firms engaged in employment generating activities, which is further classified into 34.06 years for exporters and 33.97 years for non–exporters. Indicators considered in the present study representing entrepreneurial attitude and incentive to develop their business include owner's entrepreneurial strength[193], his desire for sovereignty, unemployment pushed business and interests other than business.

[192] As far as average educational codes are concerned, it is calculated as 5.35 for whole sample, whereas for positive growth category, the average educational codes are estimated as 6.80. The owners of positive growth exporting firms are found to be more educated as compared to positive growth non-exporting firms.

[193] Among the 548 firms characterized with risk taking behavior on behalf of firms' owner, 190 firms (34.68 percent) belong to positive growth category. Exporting firms (64.74 percent) are found to be keen to take risk as compared to non-exporters (35.26 percent).

Table 5.21: Growth Motivation with respect to Firm's Growth and Exporting Status (Number)

Motivational characteristics	Exporter				Non-Exporter			
	Increase	Decrease	Stable	Total	Increase	Decrease	Stable	Total
Risk	23	11	25	159	67	76	146	389
Desire for independence	138	10	20	168	102	204	170	476
Unemployment push	120	20	8	168	0	214	172	476
Other interest	106	8	3	127	77	155	27	359

Source: Calculated from the Firms Survey Data, 2010.

Within the 644 firms differentiated regarding desire of independence on behalf of firms' owner, 240 firms (37.27 per cent) were found to be involved in employment generating activities comprising of 138 exporters (57.50 per cent) and 102 non-exporters (42.50 per cent). Among the 644 firms having started their business because of their own choice, 210 firms (32.61 per cent) were found to be categorized with positive growth firms, further classified as 120 exporters (57.15 per cent) and 90 non-exporters (42.85 per cent). Among the 486 firms pursuing business as a full time job, 183 firms (37.66 per cent) were found to be engaged in employment generating activities[194].

Management know-how is the possible outcome of many factors like belonging to intergenerational heritage, having experience of paid-employment in a similar business or previous management experience being owner of some other business. Furthermore, working under partnerships can influence the managemental know-how of entrepreneurs.

[194] Comprising of 106 firms (57.93 percent) involved in exporting activities and 77 as non exporting units (42.07 percent).

Table 5.22: Management Know-How with respect to Firm's Growth and Exporting Status (Numbers)

Management Characteristics	Exporter				Non-Exporter			
	Increase	Decrease	Stable	Total	Increase	Decrease	Stable	Total
Family business	189	13	29	231	117	262	249	628
Know-how	163	11	31	205	111	253	219	583
Experience	151	10	19	180	104	217	181	502
Partnerships	191	16	36	243	134	306	264	704

Source: Calculated from the Firms Survey Data, 2010.

Among the 859 firms owned by individuals having a business oriented background, 306 firms (35.63 per cent) were found to be experiencing positive growth, further classified into 189 units (61.77 per cent) engaged in exporting activities and 117 as non-exporters (38.23 per cent). Literature suggests that firm's performance is positively affected by prior entrepreneurial experience[195]. Among the 682 firms owned by individuals having previous business ownership experience, 255 firms (37.39 per cent) were found to be experiencing positive growth in terms of employment generation. Results suggest that owners possessing a business oriented background are involved in more exporting activities (59.22 per cent).

According to results, about 325 firms owned by individuals working in partnership experienced positive growth regarding employment generation, comprising of 191 exports and 134 non-exporters.

5.2.2.3 Growth Restricting Factors

Along with the above mentioned determinants facilitating firm's growth, there are also factors that obstruct the potential growth of the firm named as growth barriers (Davidsson, 1989). Frequently addressed restrictions for small businesses growth comprises of institutional barriers, non-institutional barriers and financial barriers.

[195] Among the 788 firms owned by individuals possessing industrial specific knowhow, 274 firms (34.78 percent) were found to be experiencing positive growth comprising of 163 exports (59.49 percent) and 111 non-exporters (40.51 percent).

Among institutional barriers, foreign trade regulations, level of taxes[196], other regulations[197], political instability and inflation are being discussed.

859 firms consider that the foreign trade regulations is the main reason restricting firm's growth, from which 302 firms (35.16 per cent) belong to negative growth category, indicating that complex rules and regulations not only restrict firms to enter in international market but also reduces their capacity to grow in terms of generating employment opportunities.

Table 5.23: Institutional Barriers with respect to Firm's Growth and Exporting Status (Number)

Institutional Barriers	Exporters				Non-Exporter			
	Increase	Decrease	Stable	Total	Increase	Decrease	Stable	Total
Foreign trade regulations	183	16	27	226	113	286	234	633
Taxes	156	13	26	195	99	272	222	593
Other Regulations	152	9	26	187	105	196	194	495
Political Instability	133	11	23	167	84	242	178	504
Inflation	170	11	25	206	112	268	230	610

Source: Calculated from the Firms Survey Data, 2010.

Political instability is considered as one of the major constraints having a negative impact on the productivity of manufacturing sector featuring poor business environment (Elhiraika & Nkurunziza, 2006)[198]. Among the 816 firms considering that the inflation is the main factor restricting firm's growth, 279 firms (34.20 per cent) belong to negative

[196] Among the 788 firms considering that the level of taxes as a major factor hindering firm's growth, 285 firms (36.17 percent) were found to be experiencing negative growth including 13 exporters (4.57 percent) and 272 non-exporters (95.43 percent).

[197] In order to investigate the impact of factors inhibiting firms growth in terms of generation of employment opportunities, 682 firms do consider that the regulations like labor laws, legal formalities and other rules regarding registration of firms are the main reason restricting firm's growth comprising of 205 firms experiencing negative employment growth, consisting of 9 exporters and 196 non-exporters.

[198] According to the table 5.23, firms involved in negative employment generating activities (253 units) consider that political instability is the main reason not only restricting firm's growth but also its chances to participate in international markets.

growth category comprising of 11 (3.95 per cent) exporters and 96.05 per cent as non-exporters.

Non-Institutional barriers are mainly associated with the firms' internal resources and capacity utilizations, the scope of market dealing, different issues relating to human resource management and problems relating to diversity into new markets (Barlett and Bukvic, 2001).

Table 5.24: Non-Institutional Barriers with respect to Firm's Growth and Exporting Status

Non-Institutional Barriers	Exporter				Non-Exporter			
	Increase	Decrease	Stable	Total	Increase	Decrease	Stable	Total
Decrease in Domestic Market Demand	148	10	26	184	89	243	199	531
Lacked Skilled Labor	112	13	17	142	61	167	126	354
Access to New Markets	96	3	16	115	61	127	117	305

Source: Calculated from the Firms Survey Data, 2010.

According to the table 5.24, among 715 firms experiencing decline in market demand during the survey period, 253 units (35.39 per cent) were found to be relating to negative growth category comprising of 10 exporters (0.40 per cent) and 243 non-exporters (99.60 per cent). Among the 496 firms considering the problem of hiring skilled labor as a major factor hindering firm's growth, 180 firms (36.29 per cent) were found to be experiencing negative growth in terms of employment generation including 13 exporters (7.23 per cent) and 167 non-exporters (92.77 per cent).

According to the results, 420 firms consider that the restricted access to new markets is the main factor hindering firm's growth, from which 130 firms (30.96 per cent) belong to negative growth category with reference to employment generating activities consisting of 3 exporters and 127 non-exporters[199].

[199] SMEs mostly experience inadequate market information. They are also unable to adjust themselves adequately to changing preferences and tastes of customers, leading to a decline in existing market shares or fail along with inability to penetrate in new markets (Adam et.al, 2006).

Financial barriers correspond to the lack of financial resources. Credit restriction, equity capital and lack of external debt are considered to be the main hindrance to the growth of SMEs[200] (Becchetti & Trovato, 2002; Pissarides, 1998).

Table 5.25: Financial Constraints with respect to Firm's Growth and Exporting Status

	Exporter				Non-Exporter			
	Increase	Decrease	Stable	Total	Increase	Decrease	Stable	Total
Financial Problems	138	8	23	169	99	195	181	475

Source: Calculated from the Firms Survey Data, 2010.

5.2.3 Analysis of Variance Tests

Elementary and descriptive analysis is considered to be necessary before econometric analysis to elucidate and interpret the data collected from the SME's survey. The elementary analysis investigates the impact of export process of a firm affecting its employment generating capacities. ANOVA test statistics is being computed to test that whether significant differences do exist among the categories of firms participating in international market or not with reference to different factors affecting firm's growth in terms of employment generating opportunities.

One way ANOVA (Analysis of variance) test is also performed to determine whether there exist any significant differences between the means of two independent and unrelated categories i.e. firms undergoing through export process or not in the present circumstances.

[200] According to the results 644 firms consider that the restricted access to financial resources is the main factor restricting firm's growth, from which 203 firms (31.53 percent) belong to negative growth category including 8 exporting units (3.94 percent) and 96.06 percent non-exporters.

Table 5.26: ANOVA Test Results between Independent variables and Firm's Export, 2010

Factors affecting Firm's Growth	One Way ANOVA
	F-statistics
Firm size(average)	166.007***
Firm Age (average years)	3.859**
New Product	23.659***
New Process	12.227***
Major improvements	15.49***
Sources of financing	20.132***
Diversification	3.517**
No. of markets (average)	31.695***
On Job Training	3.490**
Unique Know-how	42.337***
Market orientation	12.00***
Market Share	2.345*
Price adaptability	7.384***
Owner Age (average)	7.484***
Education of Owner	9.921***
Risk	21.640***
Desire for independence	14.817***
Unemployment push	3.840**
Other interest	4.881** *
Family business	7.118***
Know-how	3.699**
Experience	9.354***
Networks	6.794***
Partnership	12.020***
Foreign trade regulations	4.682***
Taxes	2.986**
Other regulations	2.621*
Political instability	21.640***
Inflation	3.504**
Increase in Market Demand	2.285*
Lacked skilled labor	2.414*
Access to new markets	2.540*
Financial Problems	3.627**

Source: Calculated from the Firms Survey Data, 2010.

*** Significant at 90 per cent confidence level**
**** Significant at 95 per cent confidence level**
***** Significant at 99 per cent confidence level**

Table 5.26 suggests that there exist significant difference between firms participating in international market and those not involved in export activities with reference to the firm-level characteristics[201], owner/manager characteristics[202] and growth restricting factors[203].

5.3 Investigation Regarding Poverty Profile of Exporting and Non-Exporting Units

5.3.1 Composition of Employees with respect to Firm's Exporting Status

In the following section the descriptive analysis is done with reference to the firm's export and poverty status of surveyed firm's employees. From 13021 employees working in the light engineering units[204] of Gujranwala, Gujarat and Sialkot Districts, a sample of 2025 workers[205] was selected on the basis of proportionate stratification.

[201] Firm level characteristics comprise of firm size and age, organizational/ business practices, technological capabilities and market structure of the firm.

[202] It comprises of owner/manager general background, growth motivation and management knowhow comprising of family business, industry specific know-how, previous ownership experience and working through partnerships.

[203] It involves the factors regarding institutional, non-institutional barriers along with financial constraints.

[204] Seven categories of light engineering sector involve electric fans, electric motors, electric goods and parts, electrical machinery, washing machines, parts of washings machines and water pumps.

[205] Where 962 workers are selected from sampled electric fans producing units, 301 from electric goods/ parts, 3 from electrical machinery, 133 from electric motors, 518 from washing machines, 66 from parts of washing machines and 42 from water pumps producing units.

Table 5.27: Proportionate Stratification on the basis of Employees of Seven Categories of Light Engineering Units

Categories	Employment			Sample		
	Employees engaged in			Employees engaged in		
	Exporting Units	Non-Exporting Units	Total Units	Exporting Units	Non-Exporting Units	Total Units
Electric Fans	3427	2759	6186	533	429	962
Electric goods/parts	649	1286	1935	101	200	301
Electric Motors	598	257	855	93	40	133
Electrical Machinery	13	6	19	2	1	3
Washing Machines	1781	1550	3331	277	241	518
Washing Machines/Parts	225	199	424	35	31	66
Water Pumps	186	84	270	29	13	42
Total	6880	6141	13021	1070	955	2025

Source: Calculated from the Firms Survey Data, 2010.

Among 2025 employees 1070 workers[206] were found to be associated with firms involved in exporting activities and 955 employees [207]with non-exporting firms.

5.3.2 Poverty Line Used In the Study

In Pakistan, a number of studies have been conducted during the last three decades in order to analyze the nature and extent of poverty. Most of the studies are primarily based on data generated through different Household Income and Expenditure Surveys (HIES), employing the calorie-intake approach to assess poverty. Whereas, a few recent studies have utilized the basic-needs approach to assess the severity of poverty. Three basic elements are required to measure poverty including an indicator of

[206] Where 533 workers are selected from sampled electric fans producing units, 101 from electric goods and parts, 2 from electrical machinery, 93 from electric motors, 277 from washing machines, 35 from parts of washing machines and 29 from water pumps producing units engaged in exporting activities.

[207] Where 429 workers are selected from sampled electric fans producing units, 200 from electric goods and parts, 1 from electrical machinery, 40 from electric motors, 241 from washing machines, 31 from parts of washing machines and 13 from water pumps producing units engaged in exporting activities.

welfare[208], a normative threshold level separating poor from non-poor (poverty line)[209] and an approximation technique to measure poverty across population[210]. Generally, poverty lines used for analytical purposes are expressed in absolute and relative terms. Relative poverty line describes the position of an individual/household as compared with the average income of the country. Absolute poverty line explains about the poverty status of an individual/household in response to a specific poverty line. This study has employed an absolute poverty line for analytical purposes. Different methods are used to construct absolute poverty line involving cost of basic need approach, food energy intake and subjective evaluations techniques.

Planning Commission of Pakistan has estimated the absolute poverty line of Rs. 673.54 per month per adult equivalent[211], by employing PIHS 1998-99 data. In the present study, the official poverty line has been utilized after inflating it for the period 2008-09. The Commission then adjusted the poverty line for the 2000-01 periods by using Consumer Price Index as Rs. 723.40[212] per month per adult equivalent and in 2004-05 it was estimated as Rs. 878.64 per month per adult equivalent. Amjad et.al, (2008) has employed same poverty line suggested by Planning Commission by using the CPI for the period of 2007and the adjusted poverty line was calculated as Rs. 1023 per month per adult equivalent. The present study has inflated the poverty line developed by Planning Commission, for the year 2008-09 and a poverty line of Rs.1398.23 per month per adult equivalent has been utilized for distinguishing poor from non-poor.

[208] It can be measured in terms of per capita calorie intake or per capita expenditure.

[209] Poverty line can be defined as that level of income or expenditures required by an individual/household to satisfy a minimum level of consumption basket comprising of goods and services that distinguishes non-poor from poor.

[210] Headcount Index, Poverty Gap Index, Poverty Severity Index, Sen Index and Sen-Shorrocks-Thon Index have been employed in the present study to measure different dimensions of poverty.

[211] Household consumption expenditure is adjusted in order to capture the differences in consumption needs with respect to age, sex and economies of scale as per adult equivalent expenditures. The adult equivalent scale suggested by OECD $(1 + 0.7 \times (NA - 1) + 0.5 \times NC)$ is being employed in the present study. Where NA is number of adults and NC is the number of children in a particular household.

[212] Pakistan Economic Survey (2006-07) "Comparative Vulnerability Profile for 2000/01 and 2004/05".

Table 5.28: Poverty Line Estimate, Pakistan (Current Rupees per Adult Equivalent per Month)

Year	Poverty line	Source
1998-1999	673.54	Planning Commission estimated poverty line using PIHS 1998-99 data
1999-00	697.6527	
2000-01	728.4192	
2001-02	754.2053	
2002-03	777.5856	
2003-04	813.1213	
2004-05	878.6489	Inflated poverty line by CPI adjusted by Planning Commission
2005-06	958.9544	
2006-07	1023.465	Inflated poverty line by CPI adjusted by PIDE/JSLBAP survey
2007-08	1157.481	
2008-09	1398.287	Inflated poverty line calculated by author

Source: Calculated from the Firms Survey Data, 2010.

5.3.3 Composition of Employee's with respect to Poverty and Firm's Exporting Status

In order to present the composition of poverty status, obligatory presentation of distinction between poor and non-poor is required. Estimates calculated on the basis of inflated poverty line of 1398.237 for the year 2008-09 and nature of firm as exporter and non-exporter are presented in the table 5.29.

Table 5.29: Poverty Estimates Based on Estimated Poverty Line

Poverty Status		Number			Per cent		
		Employees engaged in			Employees engaged in		
		Exporting Units	Non-Exporting Units	Total Units	Exporting Units	Non-Exporting Units	Total Units
Poor	**Household**	182	775	942	16.64	81.63	46.52
	Population	1416	7070	8486	18.84	86.05	53.94
Non-poor	**Household**	912	171	1083	83.36	18.36	53.48
	Population	6101	1146	7247	81.16	13.95	46.06
Total	**Household**	1094	931	2025	100	100	100
	Population	7517	8216	15833	100	100	100

Source: Calculated from the Firms Survey Data, 2010.

As a whole, 46.52 per cent employees are considered as poor constituting about 53.94 per cent of the population in the total sample of 2025 employees. Collectively, 53.48 per cent of employees are considered as non-poor constituting about 46.06 per cent of the population in the total sample of 2025 employees covering a population of about 15833 persons Conversely, population poverty estimates are found to be higher than the households estimates. The statistics are further classified on the basis of nature of firm as exporters[213] and non-exporters[214].

Distinction between poor and non-poor on the basis of seven categories of Light Engineering sector is presented in the table 5.30.

[213] Among 1094 employees engaged in export oriented industries, 182 were classified as poor and 912 as non-poor.

[214] Among 931 employees engaged in domestic oriented industries, 775 were classified as poor and 171 as non-poor.

Table 5.30: Classification of Poor and non-poor among seven categories of Light Engineering Units

Light engineering Categories	Employees engaged in Exporting Unit			Employees engaged in Non-Exporting Units			Employees engaged in Total Sampled Units		
	Poor	Non-Poor	Total	Poor	Non-Poor	Total	Poor	Non-Poor	Total
Electric Fans	26	562	588	245	22	267	271	584	855
Electric Goods/ Parts	70	55	125	227	19	246	297	74	371
Electric Motors	24	62	86	34	20	54	58	82	140
Electrical Machinery	2	3	5	2	1	3	4	4	8
Washing Machines	50	178	228	218	96	314	268	274	542
Washing Machines/ Parts	6	30	36	26	5	31	32	35	67
Water Pumps	4	22	26	8	8	16	12	30	42
Total	182	912	1094	760	171	931	942	1083	2025

Source: Calculated from the Firms Survey Data, 2010.

On the basis of proportionate sampling, sample of 2025 employees is selected encompassing 1094[215] workers engaged in export oriented industries comprising of 182[216] poor and 912[217] non-poor employees.

[215] Where 1094 employees comprises of 588 workers from electric fans producing units, 125 from electric goods and parts, 5 from electrical machinery, 86 from electric motors, 228 from washing machines, 36 from parts of washing machines and 26 from water pumps producing units.

[216] Where 182 poor employees engaged in export oriented firms, comprises of 26 workers from electric fans producing units, 70 from electric goods and parts, 2 from electrical machinery, 24 from electric motors, 50 from washing machines, 6 from parts of washing machines and 4 from water pumps producing units.

[217] Where 912 non-poor employees working in firms serving both domestic and international markets, comprises of 562 workers from sampled electric fans producing units, 55 from electric goods and parts, 3 from electrical machinery, 62 from electric motors, 178 from washing machines, 30 from parts of washing machines and 22 from water pumps producing units.

5.3.4 Income and Educational distribution among Employees of Light Engineering Units

Another definition of poverty based on inequality or relative poverty is often employed for analytical purposes as possessing diminutive share in particular dimension as compared to others in the same society. Because this notion is based on the inspiration that how households observe their status in society as a significant characteristic relating to their welfare. Mostly, poverty measures rely on the average income levels and thus focus on the circumstances of those households that fall below certain threshold level termed as poverty line. On the other hand, inequality can be considered as a much broader concept as compared to poverty in the sense that it encompasses the entire population, not only that portion that lies below certain poverty line. The concept of inequality is related with distributional aspects.

In the present study, inequality is evaluated for income and educational codes by employing Gini coefficients of inequality. As Gini coefficient is well accepted and frequently employed for analytical purposes. Gini coefficient ranges between 0 reflecting complete equality, and 1 indicating complete inequality. Diagrammatically, the area between the line of equality and Lorenz curve represent the Gini coefficient. Income distribution pattern among the surveyed employees of Light Engineering units operating in Gujranwala, Gujarat and Sialkot Districts is calculated and results are presented in table 5.31:

Table 5.31 Calculation of Gini Coefficient for Exporting, Non-Exporting and Total Units

Light Engineering Units	Gini-Coefficient
Exporting Units	0.198
Non-Exporting Units	0.214
Total Units	0.279

Source: Calculated from the Firms Survey Data, 2010.

The estimated results regarding income distribution of the whole sample depict that the income share of lowest 20 per cent households is 9.56 per cent (12.64 per cent for employees engaged in non-exporting firms and 10.16 for those belonging to exporting

units) and that of middle 60 per cent households, it accounts for about 51.99 per cent[218]. The highest 20 per cent households occupy a share of 38.45 per cent from the total income[219]. In total sample, calculated Gini coefficient is 0.279, implying that 27.9 per cent of total income is distributed unequally (0.215 for employees engaged in non-exporting firms and 0.198 for those belonging to exporting units.

5.3.5 Descriptive Results and Analysis

A survey was conducted during the February, 2009 to February, 2010 to collect a sample of 2025 employees/households belonging to Gujranwala, Gujarat and Sialkot Districts. Data collected through survey indicates that surveyed employees of the Light Engineering Units operating in Gujranwala, Gujarat and Sialkot Districts are mostly Punjabi speaking with a small minority of Pathan. Accordingly, the ethnic composition of the surveyed employees is 95 per cent Punjabi and 3 per cent Pathan with 2 per cent of Minorities. The surveyed employees are predominantly Muslim but the religious and social life of the individuals is mostly governed by the traditional clan system. The ethnic composition of employees can be presented given as 58 per cent Sunni Barailvi, 11 per cent Sunni Davebandi, 20 per cent Ahlehadees, 9 per cent Shias and remaining two per cent as minorities. According to the surveyed employees, infrastructural facilities are not sufficient. As electricity, telecommunication, basic health centers, sanitary conditions, educational institutions, safe and clean drinking water availability are considered as the basic necessities of life. Inadequate provision of any of these basic necessities negatively affects the living standards of people.

The present study is planned to explore the microeconomic determinants of poverty among the employees of Light Engineering sector of Gujranwala, Gujarat and Sialkot districts with reference to nature of firm classified as exporter or non-exporter. Major factors considered involve economic, social and demographic characteristics of employees and their respective households.

[218] 49.72 percent for employees engaged in non-exporting firms and 58.55 percent for those belonging to exporting units.

[219] 37.65 percent for employees engaged in non-exporting firms and 31.30 percent for those belonging to exporting units.

5.3.5.1 Economic Characteristics of Household

Among economic determinants, different characteristics chosen to develop a poverty profile involve household employment, skill level of the employee, job satisfaction, female male ratio (workers) and household property and assets. Household employment can be determined with the help of different indicators. The participation rate is considered to be an imperative variable relating to employment status of the household (Haq, 2005). The participation rate with respect to poverty status is presented in the table 5.32 depicting that average participation rate is calculated as 0.379 for the whole sample[220].

Table 5.32: Economic Characteristics of Households with respect to Employment and Poverty Status

Economic Characteristics	Exporter			Non-exporter			Total		
	Poor	Non-Poor	Total	Poor	Non-Poor	Total	Poor	Non-Poor	Total
Participation rate (average)	0.354	0.394	0.387	0.36	0.391	0.367	0.361	0.393	0.379
Female male ratio (workers)	0.842	0.623	0.661	0.92	0.701	0.882	0.908	0.636	0.76
Skilled Workers (Number)	34	691	725	179	108	287	213	799	1012
Average Per Capita Income (Rs.)	1032	2461	2218	965	1999	1160	978	2383	1719
Income share spend on food (Average)	0.97	0.82	0.895	0.98	0.87	0.925	0.967	0.847	0.907
Job Satisfaction (Number)	103	615	718	385	102	487	488	717	1205

Source: Calculated from the Employees' Survey Data, 2010.

Average female-male ratio of workers is calculated as 0.775 for total sample. Among the exporters, average female male ratio (workers) is estimated as 0.661, whereas

[220] After differentiating employees with reference to the exporting status of their respective units, average participation rate is being calculated for both categories of exporters and non-exporters. Among the exporters, average participation rate is estimated as 0.387. Whereas in the category of non-exporters, average participation rate is calculated as 0.367, implying that individuals relating to exporting firms participate more in the economic activities as compared to those employed in non-exporting firms.

among the category of non-exporters it is calculated as 0.882. In the process of analyzing the major factors affecting the poverty status of an employee belonging to Light Engineering Units, level of skill of an employee is given due importance. In Pakistan, SMEs are characterized by transmission of indigenous skills; therefore it is very important to understand the status of an employee with respect to its position on the skill map. The level of skill with reference to poverty status is presented in the table 5.32. Sample of 2025 comprises of 1012 skilled employees (49.67 per cent). Among the 725 skilled workers belong to exporting firms, 691 workers (95.31 per cent) belong to non-poor class and 34 workers (4.69 per cent) represent poor category.

The results depict that the non-poor households earn more than hundred per cent of average per capita incomes as compared to poor employees. Average per capita income is calculated as Rs.1783.39. Among the exporting class, average per capita income is found to be Rs.2218.19, whereas it is calculated as Rs.1159.66 for non-poor category.

In order to have a deeper insight regarding consumption pattern of employees engaged in Light Engineering Units, it is important to analyze the share of income spend on food items by individuals. The results present that the poor households spend more on food as compared to non-poor employees. Income share spend on food is calculated as 0.907 for total sample[221]. Among the 1205 workers satisfied with their job, 718 workers (59.58 per cent) belong to exporting firms and 487 workers (40.42 per cent) represent non-exporting category.

[221] Among the employees engaged in exporting firms, income share spend on food is estimated as 0.895, and for non-exporting category it is calculated as 0.925, implying that workers of non-exporting firms spend more share of their income to feed themselves as compared to workers of exporting firms.

Table 5.33: Household Property and Assets Characteristics of Household with respect to Employment and Poverty Status (Number)

Household Property and Assets	Exporter			Non-exporter			Total		
	Poor	Non-Poor	Total	Poor	Non-Poor	Total	Poor	Non-Poor	Total
Agricultural Income	41	509	550	184	81	265	225	590	815
Physical Assets	158	862	1020	169	692	861	327	1554	1881

Source: Calculated from the Employees' Survey Data, 2010.

Regarding economic characteristics of the employees of Light Engineering units, sample of 2025 workers is considered. Among the 815 employees possessing agricultural income, 550 workers (67.48 per cent) were found to be employed in exporting units and 265 employees (32.52 per cent) were employed in non-exporting firms. Although significant differences are found between the poor and the non-poor are relating to the possession of agricultural income as an extra support, not such sharper differences are found in the analysis relating to the ownership of any physical assets of households which can also generate some economic activity. Thus the ownership of physical assets can significantly support in alleviating poverty. Among the 1881 employees possessing physical assets, 327 workers (17.38 per cent) were classified as poor and 1554 employees (82.62 per cent) as non-poor.

In the present study, physical assets comprises of household appliances i.e. electronic goods and means of transportation as motor cycle or bicycle along with agricultural equipment and machinery, i.e., tractors and accessories, etc., and livestock etc. These are considered according to the rupee value of total physical assets (Chaudhary et.al, 2009). Possession of physical assets like land or livestock reduces the probability of being poor by 55 per cent in rural Pakistan (Pasha & Jamal, 2001).

5.3.5.2 Social Characteristics of Households

As far as social prospect of major factors affecting poverty status of an individual is concerned, health conditions of any household can be accessed through their access to

safe drinking water, type of sanitation system, and availability of different types of health facilities.

Table 5.34: Health characteristics of Household with respect to Poverty Status

Health Characteristics	Exporter			Non-exporter			Total		
	Poor	Non-Poor	Total	Poor	Non-Poor	Total	Poor	Non-Poor	Total
Availability of medical facilities	75	579	654	332	86	418	407	665	1072
Availability of water supply	25	288	313	88	51	139	113	339	452
Availability of water through hand pumps	92	356	448	371	75	446	463	431	894
Utilizing Latrine/toilet as Sanitation system	69	350	419	275	54	329	344	404	748

Source: Calculated from the Employees' Survey Data, 2010.

Table 5.34 represents that among 1072 workers having access to medical facilities, 654 employees (61.00 per cent) belong to exporting units and 418 workers (39.00 per cent) in non-exporting firms. Access to safe drinking water supply along with availability of satisfactory drainage and sanitation systems affectively facilities the urban and rural inhabitants by constituting basic infrastructure of a high-quality and healthy life. Regrettably, rural areas of Pakistan in general and less developed urban regions particularly including peripheral areas of Gujranwala, Gujarat and Sialkot districts have access to these basic amenities of life only at the minimum level. Public and private institutions have provided the facilities of safe drinking water supply[222] and proper

[222] Among the 452 households facilitated by source of water supply in order to fulfill their drinking requirements, 313 employees (69.25 percent) were engaged in firms participating in international markets and 139 (30.75 percent) in non-exporting firms.

drainage and sanitation systems[223] to the study area only in numbers. As far as quality of these basic necessities of life is concerned, it is much low than desired level, and due to absence of proper maintenance system, situation is further deteriorating.

The findings suggest that 894 out of 957 poor households rely on hand pump, open well and other sources (table 5.34) in order to fulfill their drinking requirements, which are thought to be poor sources of drinking water supply causing different stomach and liver diseases including dysentery, Hepatitis A, B etc.

The most important feature concerning the social aspect of poverty profile is education which is found to be negatively associated with poverty status and positively associated with per capita income. In this study, the role of education is investigated with reference to gross primary school enrollment rates[224] and average educational codes per household[225].

Table 5.35: Educational Characteristics of Household With Respect To Employment and Poverty Status

	Exporter			Non-exporter			Total		
Educational Characteristics	**Poor**	**Non-Poor**	**Total**	**Poor**	**Non-Poor**	**Total**	**Poor**	**Non-Poor**	**Total**
Gross primary School enrollment rate (Average)	35.45	62.29	57.72	39.8	55.94	42.84	38.97	61.22	50.71
Average Educational Points/ Household	2.13	3.27	3.08	2.18	2.93	2.33	2.17	3.21	2.72

Source: Calculated from the Employees' Survey Data, 2010.

[223] Among the 748 households using the facility of Latrine and toilet as their sanitation system, 419 households (56.02 percent) were categorized as workers of exporting firms, while 329 (43.98 percent) as non-exporting workers.

[224] The table 5.35 depicts that gross primary school enrollment rate is calculated as 50.71 for total sample. Among the employees of exporting class, it is estimated as 57.72 and 42.84 for non-exporting employees.

[225] The results regarding the average educational codes per household suggest that the poor households spend less on education as compared to non-poor households. The table 5.35 indicates that average educational codes per household are calculated as 2.72 for total sample. Among the poor class, average educational codes are found to be 2.17 and for non-poor class, it is estimated as 3.21.

The results regarding the gross primary school enrolment rates suggest that the poor households spend less on education as compared to non-poor households. Child schooling is related not only to parental aptitude about education, but also reflects their investing capacity in human capital. The comparison of the primary school enrollment rates reflects the parental affordability and recognition of the factors concerning the perceived benefits and costs linked with investment in human capital. Patterns of investment in education reflect the transmission of poverty and intergenerational aspects of their children's future.

Ownership status of dwelling is considered as an important determinant of poverty as it significantly decreases the probability of being poor[226]. Moreover, insufficient housing facilities lead to a sense of disempowerment and insecurity among the poor (Haq, 2005).

Table 5.36: Shelter Characteristics of Household with respect to Poverty status

Shelter Characteristics	Exporter			Non-exporter			Total		
	Poor	Non-Poor	Total	Poor	Non-Poor	Total	Poor	Non-Poor	Total
Ownership of housing unit	37	552	589	182	82	264	219	634	853
Packa (Bricked) Housing structure	89	600	689	390	120	510	479	720	1199
Access to electricity	118	668	786	517	129	646	635	797	1432
Utilization of Sui gas Cooking Fuel	28	230	258	170	42	212	198	272	470
Persons/room	4.3	2.75	3.02	4	3.25	3.86	4.06	2.84	3.42

Source: Calculated from the Employees' Survey Data, 2010.

In order to investigate the shelter characteristics of employees of Light Engineering units operating in Gujranwala, Gujarat and Sialkot districts, 853 employees were found to own a housing unit, comprising of 589 employees belonging to exporting firms (69.05 per cent) and 264 non-poor employees (30.95 per cent). Thus as a whole,

[226] Being an important component of shelter, it can act as security for borrowing and be sold during difficult economic times (Arif & Bilquees, 2007).

greater per cent age of employees engaged in firms participating in international markets possess ownership of housing unit as compared to employees of non-exporting units.

The quality and nature of housing unit can be considered as the result of poverty on one hand, but it also enhances the chances of being poor in the form of unhealthy and unhygienic living conditions. Regarding the living conditions of households employed in the Light Engineering units operating in Gujranwala, Gujarat and Sialkot districts, and factor regarding nature of housing structure is classified as kacha[227] and packa[228] houses. Among the 1199 households are privileged to live in packa houses, 479 (39.95 per cent) are accorded as poor households and 720 employees (60.05 per cent) as non-poor Thus as a whole, greater per cent age of non-poor households resides in packa houses as compared to poor households. Among the 1432 households benefited by the facility of electricity, 786 households (54.88 per cent) are categorized as workers of exporting units and 646 (45.11 per cent) as non-exporting workers. The information regarding different sources of domestic fuel and energy is gathered to construct a comprehensive poverty profile[229]. The factor of availability of accommodation within the house i.e., persons per room[230] in a given household is also considered as an important factor affecting poverty status of employees of light engineering units.

5.3.5.3 Demographic Characteristics of Household

Household demographics and composition yield significant results in order to analyze the poverty status. For the elementary analysis of data, household size[231], dependency ratio along with child and old dependency ratios, female male ratio with respect to poverty status and nature of firms as exporters and non-exporters are being presented in table 5.37.

[227] It defines all those housing units made of mud or mud-bricks, dirt roofs, having straw or wooden roofs.
[228] It comprises of all those housing units made of bricks with concrete roofs.
[229] Among the 470 households using the facility of Sui gas as their main domestic fuel, 258 (54.89 percent) are accorded as employees of exporters and 212 (45.11 percent) as non-exporter's employees.
[230] The results regarding the average persons per room suggest that the poor households (4.06) are characterized with high average regarding persons per room as compared to non-poor households (2.84).
[231] The results regarding the average household size suggest that the poor households are characterized with high average regarding household size (8.91) as compared to non-poor households (6.9).

Table 5.37: Demographic Characteristics of Household with respect to Employment and Poverty Status (Average)

Demographic Characteristics	Exporter			Non-exporter			Total		
	Poor	Non-Poor	Total	Poor	Non-Poor	Total	Poor	Non-Poor	Total
Household Size	9.15	6.81	7.2	8.85	7.4	8.57	8.91	6.9	7.85
Dependency Ratio	0.64	0.6	0.611	0.64	0.6	0.63	0.63	0.605	0.62
Child Dependency Ratio	0.46	0.44	0.45	0.47	0.45	0.47	0.5	0.44	0.46
Old Age Dependency Ratio	0.18	0.159	0.16	0.165	0.16	0.16	0.17	0.159	.164
Female Male Ratio (Population)	1.05	1.143	1.13	1.08	1.08	1.08	1.13	1.07	1.107

Source: Calculated from the Employees' Survey Data, 2010.

The dependency ratio with respect to poverty status is being calculated and presented in table 5.37 along with child dependency and old age dependency ratios. Average dependency ratio is estimated as 0.62 for total sample. Among the employees relating to exporter's category, average dependency ratio is found to 0.611, while it is calculated as 0.63 for those employed in non-exporting firms.

Average Child dependency ratio is estimated as 0.46 for total sample. Among the poor group, it is found to be 0.5 and 0.44 for non-poor class. Average old age dependency ratio is calculated as 0.164 for total sample. Among the exporter's group, average old age dependency ratio is found to be 0.16 and 0.164 for non-exporter's category. Average female male ratio is calculated as 1.107 for total sample. Among the poor class, average female male ratio is found to 1.13, whereas in non-poor category, it is estimated as 1.07.

Table 5.38: Demographic Characteristics of Household Head with respect to Employment and Poverty status

Household Head Characteristics	Exporter			Non-exporter			Total		
	Poor	Non-Poor	Total	Poor	Non-Poor	Total	Poor	Non-Poor	Total
Household Head Age (Average)	55.67	47.04	48.51	52.99	49.31	52.3	53.51	47.42	50.24
Average Educational Codes	1.64	2.16	2.07	1.47	1.83	1.54	1.5	2.1	1.82

Source: Calculated from the Employees' Survey Data, 2010.

Average age of household head is estimated as 50.24 years for the total sample. Among the poor group, average household head age is found to be 53.51 years and 47.42 years for poor and non-poor class respectively. Education of the household head with respect to poverty status is investigated and results are presented in table 5.38. Average educational codes of household head are estimated as 1.82. Among the poor group, educational codes of household head are found to be 1.5 and it is estimated as 2.1 for non-poor class.

5.3.6 Poverty Profile

5.3.6.1 Introduction

Significant inference has been extracted from the earlier discussed elementary analysis of the data, is based on the fact that on average, the employees of non-exporting firms poor are worse and backward in social, economic and demographic characteristics as compared to the employees of firms participating in both domestic and international markets. This inference is supported by the fact that about 17.1 per cent of employees are classified as poor among the employees of firms engaged in export activities comprising about 21.71 per cent of the population.

The construction of a poverty profile as a descriptive instrument presents important information regarding correlates of poverty. In general poverty profile is considered as the most appropriate manner in order to analyze the correlates of poverty,

where wellbeing of the household relating to different population groups is evaluated with respect to diverse characteristics. The poverty profile can be then utilized to categorize the collected data from the SMEs employees as poor or non-poor in terms of social, economic and demographic characteristics. A bi-variate analysis of the household indicators can be useful in this respect.

Furthermore, different dimensions of poverty can be measured by using different poverty indices. The FGT indices (Foster, Greer, & Thornback, 1984) being the most commonly employed poverty measures are being employed to present a more detailed poverty profile of the employees of Light Engineering Sector operating in Gujranwala, Gujarat and Sialkot Districts. The most frequently utilized FGT poverty measures (1984) include the Head Count Index (P_0), Poverty gap index (P_1) and poverty severity index (P_2). In addition to FGT indices (1984), different indicators like Sen Index and Sen-Shorrocks-Thon Index have been calculated in the study for both categories of exporters and non-exporters to present a comprehensive insight into different dimensions of poverty. Thus, a detailed poverty profile can be presented on the basis of data collected through multivariate employee survey, calculated poverty line and poverty indices[232].

5.3.6.2 Incidence of Poverty in the Surveyed Areas

After acquiring information regarding welfare measure such as per capita income per month per adult equivalent and a poverty line, the next step is to apply different poverty indices in order to present a more detailed view of poverty profile for both categories as exporting and non-exporting firms. A number of different measures of poverty indices can be computed. In case of present study along with most widely employed FGT indices (1984), some other measures have also been employed in order to evaluate a comprehensive poverty profile. A complete set of poverty incidences for employees working in firms classified as exporters and non-exporters is thus calculated and presented in table 5.39-5.43.

[232] Different poverty indices employed in the study involve FGT indices (1984), Sen Index and Sen-Shorrocks-Thon Index.

FGT Indices

The most extensively employed measure of poverty is the headcount index, which simply reflects the percentage of the population that is recorded as poor. It can be expressed as P_0,

$$\text{Headcount Index } P_0 = {N_P}/{N} \times 100 \quad (5.1)$$

Where N_p is the number of households that fall below poverty line and N is the total population (or sample).

Table 5.39: Calculated FGT Indices for Exporters and Non-Exporters

	Headcount Index $P_0 = {N_P}/{N} \times 100$		**Poverty Gap Index** $P_1 = \frac{1}{N}\sum_{i=1}^{N}\frac{G_i}{z}$	**Poverty Severity Index** $P_2 = \frac{1}{N}\sum_{i=1}^{N}\left(\frac{G_i}{z}\right)^2$
	Households	Population		
Exporters	17.01	21.61	0.04	0.01
Non-Exporters	86.18	89.12	0.26	0.10
Total	49.63	51.36	0.15	0.05

Source: Calculated from the Firms Survey Data, 2010.

The results indicate that, incidence of poverty (86.18 per cent) of households is high among the employees of no-exporting firms as compared to exporting units (17.01 per cent). As far as total sample is concerned, the incidence of poverty in terms of households is estimated as 49.63 per cent implying that 49.63 per cent of households live below poverty line, while 51.36 per cent of population falls below poverty line. The results indicate that incidence of poverty is found to be higher in terms of population as compared to the households, implying that poor households are characterized with larger household size as compared to non-poor households.

The calculation of incidence of poverty through head count index is subject to some limitations as the headcount index does not take into account the intensity of poverty, moreover it does not specify the extent of poorness of poor, and hence does not change if households below the poverty line become poorer or better off and ultimately the poverty estimates should be calculated on the basis of population, not on the basis of households. In order to accommodate the above mentioned facts, poverty gap index is recommended.

Poverty Gap index can be termed as a reasonably popular measure of poverty, adding up the degree at which population on average lie below the poverty line, and expressing it as a per cent age of the poverty line. Thus the poverty gap index (P_1) may be expressed as:

$$P_1 = \frac{1}{N}\sum_{i=1}^{N}\frac{G_i}{z} \tag{5.2}$$

N is the total population, G_i is the poverty gap and z is the poverty line.

The results indicate that, poverty gap index is high among employees of non-exporting units (0.26) as compared to those (0.04) engaged in export activities. The estimated results of both head count ratio and poverty gap index depict that, employees of non-exporting units are underprivileged as those compared to those employed in firms serving both domestic and international markets. The poverty gap index overcomes some limitations of head count index but it still contravenes Dalton's transfer principle, an idea first devised by Dalton (1920) that suggests an improvement in the wellbeing through the transfers from richer to a poorer person.

In order to construct a poverty measure accommodating the inequality among the poor, researchers have suggested the utilization of the squared poverty gap index. It is simply a weighted aggregate of poverty gaps (expressed as per centage of the poverty line), where the proportionate poverty gaps are considered as weights themselves. Therefore, by squaring the poverty gap index, the measure implicitly exerts more weight on individuals that fall quite below the poverty line. Poverty severity Index can be expressed as:

$$P_2 = \frac{1}{N}\sum_{i=1}^{N}\left(\frac{G_i}{z}\right)^2 \tag{5.3}$$

N is the total population, G_i is the poverty gap and z is the poverty line.

The poverty severity index for the sample as a whole is estimated as 0.05, whereas it is calculated as 0.01 for employees of exporters and for workers of non-exporters is 0.10. The estimated results of headcount index, poverty gap index and poverty severity index present that they the workers of firms serving in domestic market are disadvantaged as compared to those employed in exporting firms.

Different Specifications of Sen Index

In addition to the FGT indices, other indices like Sen Index and Sen-Shorrocks-Thon Index are also computed in order to overcome the limitations of FGT indices by presenting a more detailed profile regarding incidence of poverty in the two categories of exporters and non-exporters.

Sen (1979) proposed a poverty index, which accommodates the effect of the number of poor, their poverty depth, and the poverty distribution within the group. The index can be expressed as

$$P_S = P_0\left[1-\left(1-G^P\right)\frac{\mu^P}{z}\right] \qquad (5.4)$$

Where P_0[233] is the headcount index, μ^P is the mean expenditure (or income) of the poor[234] and G^P is the Gini coefficient calculated to measure inequality only among the poor group[235]. Gini coefficient ranges between 0 reflecting complete equality, and 1 indicating complete inequality. Results obtained for Sen Index of Poverty is are presented in the table 5.40.

Table 5.40: Calculated Sen Indices for Exporting, Non-Exporting and Total Sampled Units

	P_0	μ^P	G^P	$P_S = P_0\left[1-\left(1-G^P\right)\frac{\mu^P}{z}\right]$
Exporters	0.17	1032.35	0.07	0.05
Non-exporters	0.86	964.94	0.10	0.33
Total	0.50	977.16	0.10	0.18

Source: Calculated from the Firms Survey Data, 2010.

[233] Head count index is calculated as 0.17 for employees of exporting firms and 0.86 for non-exporting firms. As far as total sample is concerned, it is estimated as 0.50.

[234] μ^P is the mean income expressed as per capita income per adult equivalent per month of poor relating to workers of Light Engineering Units. It is estimated as Rs. 1032.35 for exporting firms and Rs. 964.94 for non-exporting category.

[235] Whereas G^P is the Gini Coefficient calculated to measure the extent of inequality among poor category. The most unequal income distribution is found to be among non-exporting firms (0.10) and 0.07 for exporting firms.

Sen Index is calculated by utilizing the information regarding P_0, μ^P, G^P and z (the poverty line) and results are presented in the last column of table 5.40. The Sen Index is found to be highest in among employees of non-exporting units (0.33), as compared to those working in firms engaged in international markets.

In order to verify the results of Sen Index, another expression used for the calculation of the Sen Index is being employed. It can be expressed as the average of the headcount and poverty gap indices, weighted by the Gini coefficient of the poor, expressing as

$$P_S = P_0 G^P + P_1\left(1 - G^P\right) \tag{5.5}$$

Where P_0 is the headcount index, G^P is the Gini coefficient calculated to measure inequality only among the poor group and P_1 is the poverty Gap Index. Results obtained for this expression of Sen Index of Poverty is are presented in the table 5.41.

Table 5.41: Calculated Sen Indices for Exporting, Non-Exporting and Total Sampled Units

	P_0	P_1	G^P	$P_S = P_0 G^P + P_1\left(1 - G^P\right)$
Exporters	0.17	0.04	0.07	0.05
Non-Exporters	0.86	0.26	0.10	0.32
Total	0.50	0.15	0.10	0.18

Source: Calculated from the Firms Survey Data, 2010.

Sen Index is calculated by utilizing the information regarding P_0, P_1 and G^P and results are presented in the last column of table 5.41. Thus according to this expression of Sen Index, Non-exporting units has the highest incidence of poverty as compared to exporting firms.

For the further verification of the results of Sen Index, another expression used for the calculation of the Sen Index is being employed. According to Xu and Osberg, 2002, Sen Index can also be expressed as

$$P_S = P_0 P_1^P\left(1 + G^{PP}\right) \tag{5.6}$$

Where P_0 is the headcount index, G^{PP} is the Gini coefficient of the poverty gap ratios calculated for only the poor and $P_1{}^P$ is the poverty Gap Index calculated for poor

individuals only[236]. Results obtained for this expression of Sen Index of Poverty is are presented in the table 5.42.

Table 5.42: Calculated Sen Indices for Exporting, Non-Exporting and Total Sampled Units

	P_0	P_1^P	G^{PP}	$P_S = P_0 P_1^P \left(1 + G^{PP}\right)$
Exporters	0.17	0.26	0.17	0.05
Non-exporters	0.86	0.31	0.22	0.33
Total	0.50	0.30	0.22	0.18

Source: Calculated from the Firms Survey Data, 2010

Sen Index is thus calculated by utilizing the information regarding P_0, P_1^P and G^{PP}. This expression of Sen Index also supports the results of estimated expressions of Sen Index.

FGT indices for Seven Categories of Light Engineering Units

After discussing the incidence of poverty within the categories of exporters and non-exporters, it will add positively to the understanding the poverty indices, if the analysis is presented in terms of seven categories[237] of Light Engineering Sector belonging to export and non-export light engineering units of Gujranwala, Gujarat and Sialkot Districts. FGT indices calculated for all considered categories of Light Engineering Sector are presented in the table 5.43.

[236] P_1^P is the poverty Gap index computed for poor individuals only, which simply adds up the extent to which population on average lie below the poverty line, and expresses it as a percentage of the poverty line.
[237] It involves electric fans, electric goods and parts, electric motors, electrical machinery, washing machines, washing machines and parts and water pumps.

Table 5.43 FGT indices for Seven Categories of Light Engineering Units

Engineering Fields	Headcount Index			Poverty Gap Index			Poverty Severity Index		
	Exporter	Non-Exporter	Total	Exporter	Non-Exporter	Total	Exporter	Non-Exporter	Total
Electric Fans	4.88	82.05	39.29	0.02	0.30	0.14	0.01	0.13	0.06
Electric Goods and Parts	69.31	96.5	87.38	0.22	0.32	0.29	0.07	0.10	0.09
Electric Motors	25.81	77.5	41.35	0.07	0.22	0.12	0.02	0.06	0.03
Electrical Machinery	100.0	100	100.0	0.28	0.28	0.28	0.08	0.08	0.08
Washing Machines	18.05	88.38	50.77	0.026	0.207	0.11	0.004	0.051	0.026
Washing machines and parts	17.14	83.87	48.48	0.016	0.089	0.05	0.001	0.009	.005
Water Pumps	13.79	53.85	26.19	0.011	0.046	0.022	0.001	0.004	.002
Overall	17.01	86.18	49.63	0.04	0.27	0.15	0.01	0.10	0.05

Source: Calculated from the Firms Survey Data, 2010

As far as employees belonging to the exporting units of Light Engineering sector are concerned, head count index is found to be highest in category of electrical machinery (100 per cent), followed by electric goods and parts (69.31 per cent), electric motors (25.81 per cent), washing machines (18.05 per cent), washing machines and parts (17.14 per cent), water pumps (13.79 per cent) and electric fans (4.88 per cent). For the whole exporter category, it is calculated as 17.01 per cent. Whereas, regarding non-exporter category, head count index is found to be highest in category of electrical machinery (100 per cent), followed by electric goods and parts (96.50 per cent), washing machines (88.38 per cent), washing machines and parts (83.87 per cent), electric fans (82.05 per cent),

electric motors (77.50 per cent) and water pumps (53.85 per cent). For the whole non-exporter category, it is calculated as 86.18 per cent.

For all the seven categories of Light Engineering Units, head count index is found to be highest in the category of electrical machinery (100 per cent), followed by electric goods and parts (87.38 per cent), washing machines (50.77 per cent), washing machines and parts (48.48 per cent), electric motors (41.35 per cent), electric fans (39.29 per cent) and water pumps (26.19 per cent). For the whole sample, it is calculated as 49.63 per cent. Poverty gap index is found to be highest in the category of electric goods and parts (0.29)[238], followed by electrical machinery (0.28), electric fans (0.14), electric motors (0.12), washing machines (0.111), washing machines and parts (0.050), and water pumps (0.022).

For the whole sample, it is calculated as 0.15. Poverty severity Index is established to be highest in Electric goods and parts (0.09) followed by electrical machinery (0.08), electric fans (0.06), electric motors (0.03), washing machines (0.026), washing machines and parts (0.005), and water pumps (0.002). Poverty severity index for whole sample is calculated as 0.05. Results yield that there exist prominent difference poverty estimates of employees belonging to exporter and non-exporter categories.

5.3.7 Analysis of Variance Tests

Elementary and descriptive analysis is considered to be necessary to elucidate and interpret the data collected from the SME's employee survey. The elementary analysis investigates different factors affecting the employee's poverty status with reference to exporting and non-exporting status of Light Engineering Units operating in Gujranwala, Gujarat and Sialkot Districts. ANOVA test statistics is being computed to test that whether significant differences do exist between the workers belonging to exporting and non-exporting categories with respect to different factors relating to poverty status of employees.

[238] Poverty gap ratio is calculated as 0.22 for exporter and 0.32 for non-exporter firms producing electric goods and parts.

Table 5.44: ANOVA test results between Independent variables affecting Poverty status of Exporting and Non-Exporting Units, 2010

Factors affecting Poverty Status	One Way ANOVA
	F-statistics
Participation Rate (Average)	7.484***
Skilled Worker (Average)	1.14e^3***
Job Satisfaction	2.209e^3***
Female/Male Ratio (Workers)	9.921***
Agricultural Income	374.041***
Physical Assets	83.873 ***
Availability of Medical Facilities	11.569***
Sources of Drinking Water (Water Supply)	119.918 ***
Nature of Sanitation System	29.357 ***
Gross Primary School Enrollment Rate	873.99***
Average Educational Points/ Household	952.003***
Ownership of Housing Unit	441.722 ***
Structure of Housing Unit	80.551***
Access To Electricity	20.680 ***
Nature of Fuel Used For Cooking	17.506 ***
Persons/Room	1.336e^3***
Average Household Size	1.008e^3***
Dependency Ratio	176.690***
Child Dependency Ratio	79.840***
Old Age Dependency Ratio	5.117**
Female Male Ratio	24.724***
Average Household Age	9.354***
Education Of Household Head	35.754 ***

Source: Calculated from the Firms Survey Data, 2010.

*** Significant at 90 per cent confidence level**
**** Significant at 95 per cent confidence level**
***** Significant at 99 per cent confidence level**

One way ANOVA (Analysis of variance) test is also performed to determine whether there exist any significant differences between the means of two independent and unrelated categories i.e. exporters and non-exporters in the present circumstances. Table 5.44 suggests that there exist significant difference between employees being categorized as employees of exporting and non-exporting units with reference to economic characteristics of household involving household employment[239], household property and

[239] It comprises of variables like participation rate, female male ratio (workers) and level of skill of the employee working in the SME.

assets including agricultural income and physical assets, along with demographic characteristics of households. Social characteristics of the household comprises of health[240], education encompassing gross primary school enrollment rate and average educational codes per household, shelter comprising of housing ownership, type of housing structure, availability of electricity, nature of fuel used for cooking and persons per room. Demographic characteristics of household involve dependency ratio (child and old age dependency ratio), female male ratio, age and education of household head.

[240] It includes access to medical facilities, sources of drinking water used by the household and type of sanitation system used.

Chapter 6

Results

6.1 Introduction

The primary objective of this study was to understand different factors affecting the export performance of Light Engineering Units operating in Gujranwala, Gujarat and Sialkot Districts. This section presents a discussion on the results obtained in table 5.13 along with a summary of hypothesis testing and policy implications.

6.2 Test of Hypotheses

6.2.1 Firm Level Characteristics

The firm size significantly affects the export performance of light engineering units.

The relationship between firm size and export intensity has been investigated extensively in international business literature (Barber & Alegre, 2007). Positive cross-sectional relationship is found between firm sizes and exporting firms (Tookey, 1964; State of Minnesota, 1975, and Geringer et.al, 2000). The firm size (0.895) is found to be significant at 99 per cent confidence level implying that if firm size increases by one unit, the probability of a firm to enter in exporting business increases by 0.895 units. The coefficients involved in the logistic regression are also presented in terms of odds ratios and marginal effects. The odds ratios explain the impact of a unit change in an independent variable on the odds of being exporter (the probability of being exporter over the probability of being non-exporter), holding all other independent variables constant. Increase in the firm size increases the probability of being exporter as a unit change in firm size increases the odds of being exporter by 2.447 units. A firm with larger number of workers has expected chances of being exporter which is 0.107 greater than the firm characterized with smaller size in terms of employees. In the case of firm size, the marginal effect will show the impact of number of employees on the probability of exporter, keeping the rest of the characteristics of firm with larger size in terms of workers the same as those of firms with smaller number of workers. Firms characterized with larger employment size contributes to greater economies of scale leading to reduction in the unit cost of production providing strong incentive to firms in the form of augmented sales both at national and international levels (Krugman, 1980). Thus, firm

size is found to influence positively on exports (Lee & Habte-Giorgis, 2004, and Aitken, Hanson & Harrison, 1997). In case of a firm employing more workers provide an indication that firm itself is financially well established which is considered as a basic requirement for exporting businesses. But in case of Pakistan advance payments with reference to importers are rare, and exporters have to bear all the costs including production, packaging and transportation. Larger number of employees also ensures diversity of experience, enabling a firm in international market.

The firm age significantly affects the export performance of light engineering units.

Literature suggests positive relationship between firm age and export intensity (Welch & Wiedersheim-Paul, 1980, and Abbas & Swiercz, 1991). The firm age (1.241) is found to be significant at 99 per cent confidence level implying that if firm age increases by one unit, the probability of a firm to be an exporter increases by 1.241 units. The odds ratio of 3.457 explain the impact of a unit change in firm size on the odds of being exporter (the probability of being exporter over the probability of being non-exporter), holding all other independent variables constant.

Firm with more years in practical business increases the probability of being exporter. The increase in the firm age by one year increases the probability of being exporter by 3.457 units. A firm with larger working experience has expected chances of being exporter which is 0.178 greater than the firm with less practical experience. Established firms on the basis of accumulated knowledge[241] and strong capabilities have greater chances to penetrate in the foreign market. Firm age in terms of number of years represents that the owner/manager have greater contacts in the market facilitating product marketing. Experienced firm owners are then able to flourish in the market on the basis of contacts and producing differentiated products with reference to quality and price consciousness. Recruitment of new employees ensures inflow of latest, energetic and enthusiastic ideas coupled with experience ensures greater chances to penetrate in international market.

[241] Baldwin & Rafiquzzaman, 1998.

Firm's initial investment at the start of project affects the export performance of light engineering units.

Initial investment (0.243) made by firms at the start of business is proved to be insignificant in present analysis relating to light engineering units operating in Gujranwala, Gujarat and Sialkot Districts. The factor of initial investment is considered as a requirement for tax registration representing white money. In case of Pakistan, there exist wide differentials between initial investment and working capital because of the subsistence of grey economy. So the factor of initial investment is proved to be insignificant in influencing the probability of being an exporter.

Firm's average revenue significantly affects the export performance of light engineering units.

Log of average revenue (0.180) is found to be insignificantly influencing the probability of being exporter in the present analysis. In case of Pakistan, firms mostly try to minimize the difference between production cost and sales price because they are taxed with reference to sales price, causing firms to exhibit lesser value of average revenue as compared to actual one. In the present study; the indicator of average revenue does not predict well the chances of a firm to act as an exporter.

Employee's average wage significantly affects the export performance of light engineering units.

The log of the average wage was proved to be insignificant while investigating the export performance of manufacturing firms in Côte d'Ivoire (Azam et.al, 2001). Log of average wage (0.185) is found to be insignificantly influencing the probability of being exporter in the present analysis. Average wage is a good indicator of skills and expertise available for firms to utilize them to a greater extent in local market. Export orders in case of Pakistan's SMEs are based mostly on product types, financial status and marketing practices. So the factor of average wage is not proved to be a significant indicator explaining the probability of being involved in exporting activities.

Manufacturing status being a contractor significantly affects the export performance of light engineering units.

SMEs are characterized with different phases of production process and work either for other larger and developed firms as subcontractors or as independent firms or

contractors by producing products for final users (Sterlacchini, 2000). Manufacturing status of a firm (1.025) being a contractor is found to be significant at 99 per cent confidence level implying a positive impact on the probability of being exporter. Manufacturing status of a firm being contractor increases the probability of being exporter as a unit change in status of a firm from sub-contractor to contractor increases the odds of being exporter by 2.786 units. Firms working in the status of contractor have expected chances of being exporter which is 0.42 greater than firms working as sub-contractors. The difference between contractors and sub contractors is important for the investigation of export performance of SMEs, because of the fact that contractors are more capable to experiencing direct export sales as compared to subcontractors SMEs (Lefebvre & Lefebvre, 2001). Contractors enjoy the direct dealing with importers and sub-contractors are underprivileged in this regard. Contractors are benefited in determining the extent of order, supply schedule, terms and conditions and eventually have greater chances of earning export profit. So, manufacturing status of a firm as a contractor increases its chances of being involved in exporting activities.

Affiliation with area wise trade unions significantly affects the export performance of light engineering units.

Affiliation with area wise trade unions (-0.127) is proved to be insignificantly influencing the probability of being exporter in current situation. In case of Pakistan, affiliation with area wise trade unions is considered as a prerequisite for dealing with domestic matters, it has nothing to do with exporting matters. Thus, it is proved to be insignificant in influencing the exporting performance of firms.

Affiliation with product wise trade unions significantly affects the export performance of light engineering units.

Affiliation with product wise trade unions (-0.261) is proved to be insignificantly influencing the probability of being exporter in the present analysis. Similarly, affiliation with product wise trade unions can facilitate firms in local markets and dealing with Government matters, but not in the international market.

6.2.2 Commercial Capabilities

Firm's product diversification affects the export performance of light engineering units.

Exporting strategy of SMEs based on diversification of products and product lines have proved to be a successful[242] in export growth (Denis & Depelteau, 1985). Diversification (product mix) (0.374) is found to be significant at 90 per cent confidence level implying that if the factor of product diversification increases by one unit, the probability of a firm to enter in exporting business increases by 0.374 units. Greater number of products produced by firm increases the probability of being exporter as a unit change in the product mix increases the odds of being exporter by 1.454 units. Firms producing a more diversified product line have expected chances of being exporter which is 0.052 more than the firm producing less diversified products. Diversification strategy focusing on market and product diversification are found to be influencing firm's exporting performance, but they have not been given due importance while investigating firm's export performance (Balabanis, 2001, and Katsikeas, Leonidou, & Morgan, 2000). Strategy based on product diversification facilitate firms to deal with a number of markets at one time, moreover the firm can differentiate its products with reference to the attributes of quality and price consciousness, enabling them to participate properly in international market.

Presence of trademarks significantly affects the export performance of light engineering units.

The factor of trade marks (0.024) is proved to be insignificantly influencing the probability of being exporter in the present analysis. Existence of trade mark is associated with the domestic matters of the firms. It facilitates them in dealing with maters confined to local markets with negligible impact on the probability of being involved in exporting activities.

Presence of registered trademarks significantly affects the export performance of light engineering units.

Existence of registered trademarks (0.954) is found to be significant at 99 per cent confidence level implying a positive impact on the probability of being exporter.

[242] Namiki, 1988.

Presence of registered trademarks increases the probability of being exporter as a unit change in the registration level of trademarks increases the odds of being exporter by 2.595 units. Firms having registered trademarks for their products have expected chances of being exporter which is 0.137 greater than firms with unregistered trademarks. Registration of trademarks along with compliance of other international standards increases the chances of a firm to compete in international markets. It facilitates firm to register their production processes and techniques up to international standards increasing their likelihood of participation in foreign markets.

Utilization of trade fairs for exploration of international market opportunities significantly affects the export performance of light engineering units.

The exhibitions and trade fairs organized by different government and non government associations have proved to be very helpful in providing opportunities to small firms in order to break into international markets by bringing buyers and sellers from different parts of the world simultaneously at the same place (Vohra, 2008). Utilization of trade fairs in order to explore exporting opportunities by firms (0.017) is found to be significant at 90 per cent confidence level implying that utilization of trade fairs for exploration of international market opportunities increases the probability of being exporter as a unit change in the factor of exploration of international markets through trade fairs increases the odds of being exporter by 0.017 units. Participation in trade fairs to find out new exporting opportunities increases the probability of being exporter as a unit change in the utilization of trade fairs to explore new markets increases the odds of being exporter by 1.017 units. The firms participating in trade fairs have expected chances of being exporter which is 0.002 greater than the firms not participating in trade fairs. These trade fairs also facilitate firms to observe international market's attitude and knowledge of international affairs significantly influencing their choices and chances of breaking into international markets[243]. Trade fairs and exhibitions being arranged by TDAP facilitate participants to display their products in an international event increasing their chances of acquiring orders and participating well in international market.

[243] Czinkota & Johnston, 1983; Cooper & Kleinschmidt, 1985; Axinn, 1988; Aaby & Slater, 1989, and Madsen, 1989.

Utilization of references for exploration of international market opportunities significantly affects the export performance of light engineering units

Exploiting personal visits and references (-0.259) abroad in order to explore exporting opportunities is found to be insignificantly influencing the probability of being exporter. References can facilitate a firm in meeting a party with less chances of acquiring international orders. In order to meet these orders the characteristics of competence, experience, financial stability and quality products are required. Acquiring information regarding international market through references and networks is less likely to affect the probability of being involved in exporting activities.

6.2.3 Technological Capabilities

The product innovation affects the export performance of light engineering units.

Literature suggests the importance of capacity to innovate products[244] in relation to the export performance of the firm. The strength of product in terms of uniqueness and quality comprises an important element for success in export activities (Styles & Ambler, 1994). The fitted values of introduction of new products by firms (0.282) is found to be significant at 99 per cent confidence level implying a positive impact on the probability of being exporter. Innovation in terms of new product increases the probability of being exporter as a unit change in activities of firms with respect to new product increases the odds of being exporter by 1.326 units. Firms undertaking projects regarding introduction of new products have expected chances of being exporter which is 0.041 greater than firms' not experiencing innovation in terms of introduction of new products. In order to have success in foreign markets, small firms mostly rely on product innovations (Sterlacchini, 2000). Innovation in terms of products increases the chances of participating in foreign markets. Product innovation can facilitate firms in terms of product diversification and producing cost competitive products incorporating requirements of changing global demands, enabling them to compete with the foreign competitors in the international market in a promising manner.

[244] It involves technological improvements, introduction of new product, changes in designing and packaging (Alvarez, 2004)

The process innovation significantly affects the export performance of light engineering units.

Introduction of new processes involves purchases of specialized machinery, introduction of quality control, outsourcing and introduction of information technologies (Alvarez, 2004). Process innovation in addition to product innovation can contribute positively toward export performance of a firm (Lachenmaie & Wößmann, 2006, and Becker & Egger, 2007). The fitted values of involvement of firms in new processes (0.387) is found to be significant at 95 per cent confidence level implying a positive impact on the probability of being exporter. Innovation in terms of new process increases the probability of being exporter as a unit change in activities of firms with respect to new process increases the odds of being exporter by 1.472 units. Firms undertaking projects regarding introduction of new processes have expected chances of being exporter which is 0.055 greater than firm's not experiencing innovation in terms of introduction of new process.

The major improvements in existing processes significantly affect the export performance of light engineering units.

The capacity to improve existing products[245] along with a technically oriented work force helps firm to enter into the foreign market and compete effectively on the basis of cost competitiveness (Lefebvre et.al, 1988). The fitted values of major improvements in existing equipments (0.446) is found to be significant at 95 per cent confidence level implying a positive impact on the probability of being exporter. Improvements in existing equipments increases the probability of being exporter as a unit change in major improvements in existing equipments increases the odds of being exporter by 1.562 units. Firms undertaking major improvements in existing equipments have expected chances of being exporter which is 0.063 greater than firms not investing in major improvements in existing equipments. Major improvements in existing processes and products enable a firm to organize its productive capacity, with the techniques of modernization and up-gradation of existing machinery and production processes, facilitating them to explore international market.

[245] It involves introduction of strategic planning, re-engineering, improved and specialized teamwork (Alvarez, 2004).

6.2.4 Export restricting factors

Availability of Information regarding foreign markets significantly affects the export performance of light engineering units.

Need for information regarding international market differ for different sectors and firm sizes, leading to indirect relationship between export market information and export performance contrary to the direct and straightforward association assumed in most studies (Heart & Diamantopoulos, 1993). The factor of non-availability of information (-0.206) in the process of internationalization are found to be insignificantly influencing the probability of being exporter. Availability of information regarding international market can influence to some extent regarding the exploration of new business opportunities in international market. The characteristics of cost competence, productive, competitiveness and financial stability on the part of firms provided with information are considered as main factors enabling firms to enter in international markets.

Non cooperation of Govt. agencies in the process of internationalization significantly affects the export performance of light engineering units.

According to the literature, Government regulations hampers the process of market entry, innovation, investment, firm growth, distort market forces, decrease the returns to entrepreneurs leading to less efficient level of economic activity[246]. Some suggest that the cumulative effect of rules and regulations is more problematic for small firm as compared to that of an individual regulation (Harris, 2002). Non-cooperative attitude of government (-0.325) in the process of internationalization is found to be significant at 90 per cent confidence level implying that if non-cooperative attitude on the part of Government increases by one unit, the probability of a firm to enter in exporting business decreases by 0.325 units. Non-cooperative attitude of government agencies in the process of exploring new markets decreases the probability of being exporter as a unit change in the non-cooperative attitude on behalf of government agencies in the process of internationalization decreases the odds of being exporter by 0.722 units. Firms facing non-cooperative attitude of government in the process of internationalization have

[246] Kingston University, (2005), "Regulation and Small Firm Performance and Growth: A Review of the Literature" www.berr.gov.uk/files/file38268.pdf

expected chances of being exporter which is 0.048 less than the firm facing co-operative behavior on part of government agencies. Non-cooperative attitude on the part of Government agencies is reflected by unproductive national export promotional program (Kaleka & Katsikeas, 1995, and Weaver & Pak, 1990) and inadequate support to overcome export barriers (Leonidou, 1995, and Kaleka & Katsikeas, 1995). Non-cooperative government attitude can restrict small firms to penetrate in international market because of complex rules and requirements required to be enrolled in the process of internationalization.

Increased competition in foreign markets significantly affects the export performance of light engineering units.

In the consequence of present wave of globalization, SMEs have to face foreign competition in the home market[247], restricting small firms from entering and developing in foreign markets (Wilkinson, 2006). Level of competition in the foreign markets (-1.685) is found to be significant at 99 per cent confidence level implying that if intensity of competition in foreign markets increases by one unit, the probability of a firm to enter in exporting business decreases by 1.685 units. Increased level of competition in the foreign markets decreases the probability of being exporter as a unit change in the level of competition decreases the odds of being exporter by 0.185 units. Firms facing severe competition have expected chances of being exporter which is 0.268 less than the firm experiencing lesser degree of competition in the foreign market. Stronger competition in the international market could result in diminishing performance on the part of small firms, thus widening the gap between their performance and that of larger enterprises, forcing firms to leave the international market.

[247] Etemad, 2004.

Financial problems significantly affect the export performance of light engineering units.

Financial constraints correspond to the lack of financial resources. Credit restriction, equity capital and lack of external debt are considered to be the main hindrance to the growth of SMEs (Becchetti & Trovato, 2002; Pissarides, 1998, and Riding & Haines, 1998). Financial problems (-0.716) in the process of internationalization is found to be significant at 95 per cent confidence level implying that if financial restrictions increases by one unit, the probability of a firm to enter in exporting business decreases by 0.716 units. The coefficients involved in the logistic regression are also presented in terms of odds ratios and marginal effects. Financial constraints decreases the probability of being exporter as a unit change in difficulties relating to financial matters decreases the odds of being exporter by 0.488 units. Firms facing financial problems in the process of internationalization have expected chances of being exporter which is 0.102 less than the firm not experiencing any difficulty regarding financial matters. Export activities regarding small firms are mostly based on credit, requiring financial stability on the part of firm to carry on export business. High cost of capital to finance exports for small firms hampers their process of internationalization (Katsikeas & Morgan, 1994; Kaleka & Katsikeas, 1995, and Tesfom & Lutz, 2006). Internal labor constraints along with the financial constraints were considered as the main factors restricting growth of both exporters and non-exporters in Northampton shire (Cook, 2000).

Cost competitiveness significantly affects the export performance of light engineering units.

According to trade theories, a significant source of cost competitiveness at the firm level is considered to be the advantage impact of scale operation resulting in lower average costs and thus improving market competitiveness[248]. The factor of cost competitiveness is considered of crucial importance in the process of internationalization,

[248] The three main source of scale-based advantage include economies in the production process due to increasing returns to scale, economies in the mass purchases of materials and economies in marketing costs (Bhavani & Tendulkar, 2001).

as policy recommendations often tend to focus on the cost competitiveness of SMEs (Herbig, Golden & Dunphy 1994). The factor of cost competitiveness in international markets (-1.399) is found to be significant at 99 per cent confidence level implying that if the factor of cost-in competitiveness increases by one unit, the probability of a firm to enter in exporting business decreases by 1.399 units. Firm producing cost in-competitive products in international markets decreases the probability of being exporter as a unit decrease in the competitiveness of product's cost structure decreases the odds of being exporter by 0.247 units. Firm producing less cost in-competitive products have expected chances of being exporter which is 0.217 less than the firm producing cost competitive products with respect to international markets. Firms not capable to adapt themselves regarding intensity of competition in global market are unable to carry on without considerable improvements in improving product quality, cost competitiveness and organizational setup (Wignaraja, 2003). In case of Pakistan, inadequate supplies of basic fuels including electricity and Sui gas have hampered the production level of SMEs to a great extent. Moreover, the price hike on the part of petrol and diesel has not only caused an increase in cost of production, thus making their products less competitive as compared to their counterparts in international markets.

High cost of visiting foreign markets significantly affects the export performance of light engineering units.

Small firms build their networks by associating with foreign companies in target countries having complementary skills like their own firms. Visits to trade fairs and export market influence export performance positively (Denis & Depelteau 1985, and Cavusgil & Naor 1987). Export restricting factor like expensive foreign trips (-0.768) is found to be significant at 99 per cent confidence level specifying a negative impact on the probability of being exporter. Variable of expensive foreign trips decreases the probability of being exporter as a unit change in highly priced foreign trips decreases the odds of being exporter by 0.464 units. Firm experiencing the expensiveness of foreign trips have expected chances of being exporter which is 0.124 less than the firm not practicing the highly priced foreign trips. For this purpose, the entrepreneur/manger has to go around and try to formulate a network through personal contacts, visiting foreign markets and other clients (Coviello et.al, 1998). Frequency of visiting foreign markets

essentially adds up into international experience (Voerman, 2003). In a developing country like Pakistan, firms lack such resources enabling them to visit foreign markets, get familiar with the market situation and requirements, and act accordingly. High cost of visiting foreign markets is proved to be a major obstacle in the process of internationalization of small firms. Uncertainty regarding acquiring any international order also increases the opportunity cost of such foreign visit, thus restricting firms to enter in international markets.

Results regarding Poverty/Exporting Differentials

One way ANOVA (Analysis of variance) test is also performed to determine whether there exist any significant differences between the means of two independent and unrelated categories i.e. exporters and non-exporters in the present circumstances. Table 5.44 suggests that there exist significant difference between employees being categorized as employees of exporting and non-exporting units with reference to economic characteristics of household involving household employment[249], household property and assets including agricultural income and physical assets, along with demographic characteristics of households. Social characteristics of the household comprises of health[250], education encompassing gross primary school enrollment rate and average educational codes per household, shelter comprising of housing ownership, type of housing structure, availability of electricity, nature of fuel used for cooking and persons per room. Demographic characteristics of household involve dependency ratio (child and old age dependency ratio), female male ratio, age and education of household head.

Results regarding Growth/Exporting Differentials

Table 5.26 suggests that there exist significant difference between firms participating in international market and those not involved in export activities with reference to the firm-level characteristics[251], owner/manager characteristics[252] and growth restricting factors[253].

[249] It comprises of variables like participation rate, female male ratio (workers) and level of skill of the employee working in the SME.

[250] It includes access to medical facilities, sources of drinking water used by the household and type of sanitation system used.

[251] Firm level characteristics comprise of firm size and age, organizational/ business practices, technological capabilities and market structure of the firm.

Chapter 7

Conclusion

7.1 Research Implications

This section suggest some recommendations for increasing the export potential of Light engineering units operating in Gujranwala, Gujarat and Sialkot Districts within the framework of challenging global economy and generating employment opportunities. These recommendations are based on the discussion regarding the basic issue of identifying the factors considered responsible for affecting the probability of a firm being involved in exporting activities and thus enabling them to improve the employment prospects and well being of their employees. These are based on reforming and strengthening of institutional structures facilitating SMEs to access technology, production skills and capital with ease and in greater amount. The focal point of research implications will be on strategies and policies, ensuring realization, incorporation, and up-gradation and finally examining their impact to increase the internal and external efficiencies of small firms.

7.1.1 Government Facilitation

Government organizations should support and coordinate with SMEs regarding their growth and export problems as the factor of non cooperation on behalf of these organizations is found to be negatively and significantly affecting a firm's potential. Export assistance programs should be modified according to the requirements of SMEs. Though government has offered some support programs, they are not considered to be sufficient enough to encourage small firms to flourish and contribute positively towards economic growth by participating actively in international markets.

The involvement on behalf of government to facilitate SMEs is of significant importance suggesting that market failures prevent domestic small enterprises to build up capabilities and generate revenue through exporting activities. Therefore, detailed programs, policies, and institutional frameworks should be devised helping SMEs to overcome market failures. In this regard, a publicly financed program should be launched

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[252] It comprises of owner/manager general background, growth motivation and management knowhow comprising of family business, industry specific know-how, previous ownership experience and working through partnerships.

[253] It involves the factors regarding institutional, non-institutional barriers along with financial constraints.

to support SMEs in a sound economic rationale to address market failures reasoning a bias against SMEs.

7.1.2 Financial Assistance

Financing is generally cited as a critical factor influencing practicality the development of SMEs. Financial institutions and investors are found to be reluctant in financing SMEs, or they charge a high premium while providing funds. This consequence may be the result of different factors related to SMEs like higher transaction costs, high perceived risk, incomplete and inadequate accounting records and financial statements along with weak business plans[254]. Financial problems (-0.716) in the process of internationalization is found to be significant in the present study at 95 per cent confidence level implying that if financial restrictions increases by one unit, the probability of a firm to enter in exporting business decreases by 0.716 units. Financial institution should provide easy access regarding credit availability and correcting the distortions in credit markets restricting SME export process. Special attention should be laid in the form of considerable investment to develop suitable production techniques, development of skills and capacity expansion along with certification facilitating the export process of SMEs. Measures should be taken to improve the conditions regarding availability of credit and loans to firms enabling them to generate more foreign exchange revenue.

7.1.3 Standards and Certification.

Access to international markets depends largely on the acquisition of range of different tough standards through some credible certification regarding inputs, outputs with respect to safety and health standards along with production processes focusing on labor standards. Existence of registered trademarks along with innovation in terms of major improvements in existing process are found to be significant implying a positive impact on the probability of being exporter. International buyers are more interested in doing business with certified companies in the sense that minimum required capabilities are met in this regard. The certification costs and compliances with different number and varieties of standards are comparatively high for SMEs, but acquiring such certifications increases the potential chances of access to international markets by strengthening the

[254] Beck, 2007, and Ferranti & Ody, 2007.

general competitiveness of SMEs. Government along with development agencies can support SMEs regarding the availability of certifications, and facilitate them ensuring that they are burdened prohibitively.

7.1.4 Harmony in accordance with Foreign trade regulations

SMEs are relatively disadvantaged in terms of influencing public policies regarding foreign trade regulations. Therefore, SMEs should be encouraged to participate in public-private institutions dialogue so that they can express their needs and requirements for different phases of their export participation. The factor of foreign trade regulations (4.682)*** suggests that there exist significant difference between firms participating in international market and those not involved in export activities. SMEs have limited capacity-building options in terms of expensive support services like financial and legal consulting, training, availability of information, restricting SME competitiveness and therefore productivity. Therefore, such policy options should be designed enhancing the capacity of SMEs regarding their exporting potential.

7.1.5 Facilitation in access to new Export markets

In order to enhance the general competitiveness prospects for small firms, a business friendly environment in terms of exploration of new markets for SMEs can be regarded as a critical requirement including ease of entry and exit of new firms in international market. Simplification of import-growth policies and procedures for small firms and enhancing the awareness regarding dynamic global needs and exploring new markets for Light Engineering products can induce small firms to generate foreign exchange. The factor of increased market demand (2.285)* suggests that there exist significant difference between firms participating in international market and those not involved in export activities. SMEs are characterized with serving conventional local markets, with a little understanding of the global opportunities, their consequent structure, dynamics and subcontracting requirements for their business to grow. With reference to the inadequate resources and constrained managerial capabilities of SMEs, it is therefore difficult for SMEs to acquire such information on their own.

7.1.6 Legal and Regulatory Framework

Rules and regulations based on the provision of friendly lending policies in favor of small firms should be facilitated in terms of collaterals, financial information and risk

mitigation. Complex laws, policies and rules relating to companies can prove to be particularly harsh to the growth of small firms, which is evident from the factor of other regulations (2.621)* in the present study. Access to institutional finance along with encouraging economic environment is considered as the main factors affecting growth of SMEs. Small firms are rarely benefited by the institutional financing facility, because of non-existence of a functional and clear definition of small and medium firms. Government should clearly define the small and the medium firms enabling them to enjoy the benefits of easy credit under the Annual Credit Plans of SMEs.

7.1.7 Improving the General economic environment

Political instability and inflation are considered as major constraints having a negative impact on the productivity of manufacturing sector featuring poor business environment. In the presence of high and volatile inflation, the operation of the price mechanism is distorted leading to inefficient allocation of resources. Government should facilitate small firms to minimize their losses due to inflation in terms of subsidized electricity and gas bills.

7.1.8 Fiscal and Taxation System

An unsuitable tax system and a range of biased official policies correspond to a major factor effecting firm's growth. Local tax authorities are often involved in harassing of small firms regarding income tax assessment, intimidating them to bribe and causing revenue losses to Government. While being a part of informal economy, small firms are benefited from tax concession and reduced fixed costs because of low documentation cost. Government should try to improve the framework of rules and regulations enabling SMEs to easily understand and practice them. Such measures should be taken including the translation of laws in Urdu, reducing the complexity and compliance cost of laws. Moreover, small firms should be encouraged to register themselves, by providing them facilities like tax holidays special exemptions and other services including provision of credit at confessional rates and technical support.

Small businesses are characterized with irregular account keeping records; representing their informal behavior. Government should engage local associations of small businesses in the course of assessing firms' tax liabilities, providing support for

regular tax collection along with persuading them to keep a regular record of their accounts.

7.1.9 Facilitating Innovation for SMEs

The focus of SME development programs are often on poverty alleviation and helping small enterprises more formalized and sustainable, without adding significantly to the country's overall economic competitiveness and long run growth targets. The functioning of small firms can be summarized being the promoter of innovation in terms of new products and services, introduction and improvement of innovation necessitating flexibility on the part of owner-manager, and capability to respond and to proceed accordingly. As the factors of innovation comprising of product innovation, process innovation and major improvements in the existing process are found to be significantly and positively inducing the firm's probability of being an exporter. Such proposals should be launched both at regional and national levels, acknowledging and compensating innovation and creativity among small entrepreneurs, promoting productivity within domestic market economy. The issue of intellectual property rights is not often given due importance in many SME development programs because of the perception that it is somewhat pursued by multinational enterprises. Innovation and creativity can be promoted in SMEs, if satisfactory intellectual property rights protection both in form of regulations and their effective enforcement are introduced by the Government.

7.1.10 Technology Up gradation

Moreover, special attention should be given regarding the designing of policy options corresponding to the requirements of firms as they go through the different phases of the process of internationalization. Greater attention should be given to improve the technological and commercial capabilities of small firms. Investment should be made to facilitate training and technology development, along with the optimal utilization of such investments, causing a remedy for underinvestment by SMEs in technology acquisition, development and training. In order to improve the competitive prospects, Government should facilitate SMEs to upgrade their technological capabilities including production processes, productivity, testing of raw material, organizational quality standards, information systems and other technical processes. Government should

provide finance enabling SMEs to acquire technical certification, should establish productivity centers for SMEs along with provision of technology-related training services for small firms. Government should promote partnerships between SMEs and technical institutes by developing particular services aimed at development of small enterprises.

7.1.11 Increasing cost-competitiveness of SMEs

The development and execution of a new policy option to develop the competitiveness of SME in developing country like Pakistan requires much attention based on the interactions between SMEs, their relative organizations, government agencies and other private institutions. The fitted values of major improvements in existing equipments (0.446) is found to be significant at 95 per cent confidence level implying a positive impact on the probability of being exporter. In order to promote business friendly environment for SMEs enabling them to grow and helping in consolidation of exporting activities, Government should formulate such policy options to deal with the problem of corruption and complicated formalities that restrict the export potential of small units. Government should create such legal and administrative institutions to assure small firms such a framework that can help to facilitate them to develop.

7.1.12 Improving the Product Mix (Diversification)

Exporting strategy of SMEs based on diversification of products and product lines have proved to be a successful in export growth. In the presence of diversified products, the expertise and knowledge acquired in the fields of commercial and competitiveness can be transferred from one sector to others, which are found to be associated with export success. Government should plan such Incentives focusing on reduced tax rates and subsidized training programs up-grading business products, processes, and quality accreditation for SMEs. An approved strategy based on improvement of expertise and managerial skills should be advised for small firms. SMEs should be encouraged to adapt the modern tools and procedures based on Information & Communication Technology along with international CAD/CAM standards and protocols and modern accounting techniques in order to increase their competitiveness.

7.1.14 Organizational Structure/Management Level

Administrative skills along with organizational structure greatly influence the firm's growth. Factors including low level of educational and professional training, ignoring the importance of assets valuation and adaptation of personalized management style on the part of business managers, exert negative impact on economic performance of SMEs in case of Pakistan (Aftab & Rahim, 1986). The factors of market orientation, experience and industry specific know how are found to be significantly adding to the groth and export experience of Light engineering Units in the present study. Public and private organizations should organize such activities helping to improve the low economic efficiencies of SMEs managers, particularly in case of accounting, stock management, advertising, cost accounting, quality control and production scheduling.

7.1.15 Improvement in Marketing Techniques

Inability to compete products with the new trend in demand is considered as one of the main factors restricting SMEs to grow in domestic and export markets. The exhibitions and trade fairs organized by different government and non government associations have proved to be very helpful in providing opportunities to small firms in order to break into international markets by bringing buyers and sellers from different parts of the world simultaneously at the same place. Utilization of trade fairs in order to explore exporting opportunities by firms (0.017) is found to be significant at 90 per cent confidence level implying that if the factor of exploration of international markets through trade fairs increases by one unit, the probability of a firm to enter in exporting business increases by 0.017 units. A number of factors influencing the successful marketing of SMEs comprises of quality of product, design, finishing process, raw materials, skill level, and after-sales services. Regarding these constraints on the part of SMEs, they should be encouraged to act as sub-contractors or linkage-partners with large enterprises helping them to develop their resource base and enabling them to grow both at domestic and international levels.

7.1.16 Provision of Infrastructural Facilities

The factor of infrastructural deficiencies is considered to be exerting a significant influence on firms' growth. Inadequate supplies of basic fuels including electricity and

Sui gas have hampered the production level of SMEs to a great extent leading them to cost-in competitive with reference to the foreign competitors in international markets. Moreover, the price hike on the part of petrol and diesel has not only caused an increase in cost of production but has also forced firms to reduce their manufacturing activities along with reduction in the employment levels. Government should ensure the uninterrupted supply of gas and electricity to SMEs, but also formulate such policy options that small firms should be provided with subsidized fuel for production processes. In addition to fuel, gas and electricity, the facilities of roads, freight transport and internet access should be provided to small firms facilitating in their process of growth.

7.1.17 Participation in International markets

Higher threshold level of skills is required by SMEs to participate actively in the global market. Therefore policies and programs should be designed to improve technological and administrative skills raising the SMEs potential to participate competitively in international markets. Utilization of trade fairs in order to explore exporting opportunities by firms (0.017) is found to be significant at 90 per cent confidence level implying that if the factor of exploration of international markets through trade fairs increases by one unit, the probability of a firm to enter in exporting business increases by 0.017 units. This might be associated with different training schemes, informative movements to educate SMEs regarding the prospects of improved skill advancement and training programs, tax exemptions for training programs, and linking up of educational institutions and SMEs requirements.

7.1.18 Provision of Medical Facilities

Good health with satisfactory nutritional level is considered to be prerequisite for establishment of a healthy society but also improve workers productivity and earning. According to the survey results, the provision of medical facilities in the study areas is considered to be inadequate not in quantity but also in quality. The employees have to depend on local medical healers, medical dispensers, nurses and lady health workers for medical treatment rather than on registered doctors. ANOVA finding of 11.569 suggests that there exist significant difference between employees being categorized as employees of exporting and non-exporting units with reference to economic characteristics of

household in terms of availability of medical facilities. Accessibility of doctors at basic health centers is uncommon with the provision of inferior medical treatment in the form of availability of medicines and medical equipment. Government should device such policy ensuring provision of medical facilities to each and every household ensuring a healthy and productive society.

7.1.19 Provision of Educational Facilities

Education and training contribute positively towards development of human capital and process of economic growth which consecutively affect income distribution. Therefore, provision of educational facilities should be considered as a catalyst accelerating the pace of economic growth. Education also plays an important role in the labor market as individuals with higher education[255] have greater chances to get employed and earn comparatively higher income. Government must device such policy options facilitating not only the formal education through schools and colleges, but also informal education through technical and vocational institutions. Study suggests that there exist significant difference between employees being categorized as employees of exporting and non-exporting units with reference to average education points/household. It should develop an entrepreneurial educational linkage, facilitating the development of manpower along with their proper execution in business activities. Pakistan is an economy of SMEs, as 99 per cent of its economic establishments are accorded as small and medium enterprises. SMEs are considered as excellent means to absorb the labor force educated from technical and vocational institutions. Moreover special training institutes for female can facilitate them to generate internal business activities. Thus, promotion of education is an important remedy dealing with the problem of poverty. The development of human capital through education can increase the productivity of the poor, and thus indirectly addressing the problem of poverty in case of study area.

7.1.20 Improving the Demographic Characteristics of Households

The survey results suggest that poor households are characterized with larger household sizes and less labor force participation rate, thus supplementing the nature, extent and severity of poverty among large households in the study area. Consequently

[255] Education improves the quality of labor as human capital is considered as an asset and is an important element in those situations where availability of material assets is highly constrained (CPRC, 2005).

households with larger size have diminishing chances of improvement in their living standards and thus lead to worsen their livelihood conditions. Survey results also suggest that the factor of persons per room a poor household is calculated as 4 members among poor households, indicating the worsening impact of the larger household size on the livelihood standards. Moreover greater number of persons per room represents the precarious and unhygienic living conditions exerting a negative influence on the productive capacity of households. Rapid increase in population in relation to limited efforts to generate new resources is the main cause of the problem indicating that high population growth adversely affects the per capita income. Government should device efficient policy measures based on educating people to raise their families according to resources available to them. Moreover, such policies should be adopted aimed to improve the living conditions of poor by providing such opportunities to improve their earnings and enabling them to participate in process of economic growth in an effective manner.

7.1.21. Generation of Employment Opportunities

Poverty elimination is impracticable unless the economy generates the opportunities in terms of investment projects, development of entrepreneurial culture, employment generation and sustainable livelihoods are considered as fundamental measures required for poverty elimination. The most important way leading out of poverty is to improve the participation rate among poor households, asserting to develop and generate employment opportunities. Government must formulate such policies to encourage people to participate in economic activities by providing facilities including easy access to credit, technical and other requirements. In this regard micro-finance activities can help in development of entrepreneurial culture, enabling the poor to obtain loan for productive purposes, save and build their assets and consequently poverty level can be reduced.

7.1.22 Availability of Safe and Clean Drinking Water

Differences regarding available sources of drinking water can affect the poverty status of households. Access to safe drinking water supply along with availability of satisfactory drainage and sanitation systems affectively facilities the urban and rural inhabitants by constituting basic infrastructure of a high-quality and healthy life. Regrettably, rural areas of Pakistan in general and less developed urban regions

particularly in peripheral areas of Gujranwala, Gujarat and Sialkot districts have access to these basic amenities of life only at the minimum scale. Public and private institutions have provided the facilities of safe drinking water supply and availability of proper drainage and sanitation systems to the study area only in quantity. As far as quality of these basic necessities of life is concerned, it is much low than desired level, and due to absence of proper maintenance system, situation is further deteriorating. According to the survey results, 89 per cent of poor households rely on hand pump, open well and other sources in order to fulfill their drinking requirements, which are thought to be poor sources of drinking water supply causing different stomach and liver diseases including dysentery, hepatitis A, B etc. Health status of people is directly affected by availability of safe drinking. Deprived access to drinking water supply and proper sanitation system consecutively increases the chances of worse health condition of poor as compared to non-poor. Government must pursue such measures ensuring the availability of safe and clean drinking water to each and everyone, thus improving the nutritional and health status of the household.

7.1.23 Improving the Sanitation Conditions

Differences regarding types of sanitation system can influence the poverty status of households. Accessibility of reasonable drainage and sanitation systems facilitate households adding towards high-quality and healthy life. Unavailability of proper sanitation system increases the chances for poor from suffering poor health as compared to non-poor. In the present study, different types of sanitation/drainage systems being employed by individuals are investigated including usage of Latrine/toilet, open space and other manners to get rid of wastes. According to survey results, sanitation conditions are underprivileged among the poor category, as compared to the non-poor category causing malaria and respiratory infections in the study area. Unavailability of proper sanitation system increases the chances for poor from suffering poor health as compared to non-poor. Furthermore, there is no proper setup for the disposal of water of household wastes, as it goes into fields, thus resulting into standing of sewerage water in streets and fields spreading diseases like Malaria, Dengue, Diphtheria and other epidemics. Government must practice actions ensuring the disposal of waste material in a proper and hygienic way, thus improving the health, hygiene and wellbeing of the household.

7.1.24 Access to Basic Amenities

Access to basic amenities like electricity, Sui gas and telecommunication are considered as the major factors distinguishing poor from non-poor. Household having access to gas, electricity, telephone, flush toilet and piped drinking water experience lower poverty rates as compared to those without these amenities and there exists wide variations between rural and urban areas illustrating that poor are exceptionally deprived of basic amenities of life. In a less developing country like Pakistan, poor has to allocate a larger share of their expenditures on the basic requirements like food, electricity, lighting and fuel, reinforcing their low level of human development. Therefore they spend less on healthcare and education, which might impact their long-term earning prospective. Government should device such policy options facilitating the access to these basic amenities of life at a subsidized rate.

7.2 Limitations of the Study and Future Research Prospects

After the discussion of results and research implications, limitations and shortcomings of the research are addressed in the following section. Each research is characterized with some limitations, inviting researchers to discover new avenues for future research. Although there are various possible conceptual topics for further investigation, some suggestions are being presented as follows:

7.2.1 Measurement of Concepts

7.2.1.1 Measurement of Firms' Export Performance

According to researchers there is not any homogeneously accepted operationalization and conceptualization measuring export performance (Aaby & Slater, 1989, and Chetty & Hamilton,

1993). Export performance has been typically measured by employing a single indicator approach comprising either of export sales growth, export sales, export intensity, export profits representing the most frequently employed indicators (Cooper & Kleinschmidt, 1985; Madsen, 1989; Cavusgil & Zou, 1994; Piercy et.al, 1997, and Zou & Stan, 1998). But the literature suggests that export performance is considered as a complicated construct and is unable to be explained by a single indicator (Cavusgil & Zou, 1994). Export performance is broadly defined as firm's outcomes in terms of international sales (Shoham, 1998). In order to cover the financial and strategic aspects regarding firm's

performance, a time horizon is required (Madsen, 1987 and Shoham, 1998). Previous research has employed export sales while measuring export performance (Cavusgil and Zou, 1994).

In the present study, because of the lack of exporting records on behalf of SMEs, the indicator of exporting incidence is being employed in the present study. The firms participated in any exporting activity in the last two years of 2008 and 2009 till the survey time according to their tax returns was categorized as exporters and vice versa. Researchers should focus on better understanding of measures regarding firm's export performance, with reference to what owner/managers themselves regard as important outcomes.

7.2.1.2 Measurement of firms' growth

Despite of increasing awareness regarding the growth pattern of SMEs, the deviation regarding the issue of measuring and operationalization of this the concept is quite common. There is not any particular, uniformly accepted measure employed to judge firms' growth (Storey, 1991). Among various possible measure of firm's growth, employment growth rate is considered to be the least problematic mature because of ease of measurement. The factor of employment is preferred against other measures including sales, assets because of accounting problems preventing the accurate measurement of growth rate (Barkham et.al, 1996). Three growth measures have been defined in terms of growth rates of net investment, capital expenditure and employment (Lang et al., 1996). The factors of financial soundness (Brush & Chaganti, 1998, and Sharpe, 1994), net assets (Dunne & Hugnes, 1992) and business earnings (Kallegert & Leicht, 1991) have also been employed to measure firm's growth.

In the present study, because of the lack of financial records on behalf of SMEs, the indicator of employment is being employed in the present study. The owner-mangers were asked that whether the firms have recorded an increase, decrease or no change in terms of number of employees in the last two years of 2008 and 2009 till the survey time. Researchers should focus on better understanding of firm's growth, with reference to what owner/managers themselves regard as important outcomes.

7.2.1.3 Measurement of Poverty

According to the World Bank (2000), "poverty is pronounced deprivation in wellbeing". Perhaps the broadest approach to well-being is the one articulated by Amartya Sen (1987), who argues that well-being comes from a capability to function in society. Thus, poverty arises when people lack key capabilities, and so has inadequate income or education, or poor health, or insecurity, or low self-confidence, or a sense of powerlessness, or the absence of rights such as freedom of speech. In order to measure the poverty, it is essential to identify a benchmark for differentiating poor from non poor and it is generally utilized as a measure of welfare in case of developed countries, but it experience the serious problem of understating in less-developed countries. Moreover, different methods are being employed to construct a poverty line including cost of basic need approach, food energy intake approach and subjective evaluation techniques.

The present study has utilized the inflated poverty line developed by Planning Commission, for the year 2008-09 and a poverty line of Rs.1398.23 per month per adult equivalent has been utilized for distinguishing poor from non-poor. An employee was granted the status of poor, if his per capita per adult equivalent income falls below estimated poverty line. Researchers should focus on better understanding of concept of poverty, a suitable and well accepted indicator of welfare and an appropriate technique to construct a poverty line.

7.2.2 Establishment and operationalization of comprehensive list of major determinants

The focus of all studies investigating the export and growth performance of small firms is to explore major factors influencing firm's export performance and enabling them to generate employment opportunities, helping both government and firm itself to draw some policy implications regarding future performances. With the passage of time, the empirical researchers have contributed to the development of a comprehensive list of possible factors, but it cannot be referred as a finalized one. Some variables are so ambiguous that direct or indirect measurement (operationalization) of these factors requires much attention, helping empirical research to be carried out in a meaningful manner.

7.2.3 Small sample size

A sample of 1201 Light engineering units and 2025 employees is being employed in study for investigating the main objectives of the dissertation. The outcome of the study can be improved by improving sample size and the degree of generalizing its results can be increased by involving SMEs from areas other than Gujranwala, Gujarat and Sialkot Districts.

7.2.4 Reliability and validity

The concept of reliability and validity refers that it the study is replicated in different areas of the same country or across different countries, it yield more or less same results. As described earlier, the value of the Cronbach's alpha estimated in this research is found to be over 0.70, indicating an acceptable measure. Future researchers should try to improve the measures of reliability of the determinants along with an appropriate operationalization of these factors.

7.2.5 Longitudinal research projects

Majority of research conducted to construct a poverty profile of households are cross-sectional in nature. Considerable information can be drawn from a cross-sectional study but utilization of a panel data set can yield more significant inference. Government organizations should conduct surveys and make it possible that firms and employees participate over the years yielding the panel data employed for analytical purposes and provide valuable information that SMEs have contributed to improve the living standards of its employees.

7.2.6 Sampling and non-sampling errors

The process of data collection through sample surveys is always exposed to sampling and non-sampling errors. Sample being a segment of the population may not cover all the characteristics of the population accurately, presenting a difference between the population parameter and estimate of static value based on the collected sample. Non-sampling errors are mostly related to the process of listing of sample frame, editing/coding, data analysis and data presentation stage. Efforts should be made to minimize the Sampling and non Sampling errors by considering the importance of the information provided by employees regarding one aspect and rechecking it through cross questioning.

7.3 Conclusion

Emphasis should be given to the issues of increasing employment opportunities through establishment of small and medium enterprises, construction of physical economic infrastructure and implementing new labor policies to improve the living standard of the above stated 80% of non agricultural labor force working in SMEs. Government should focus on the development of training centers that could provide basic training to the employees of the workforce of these small units. Financial assistance along with access to global markets can exert positive impact on the development of these industrial units and thus on the poverty reduction.

Thus, the living conditions are not found to be up to the mark in surveyed areas of Gujranwala, Gujarat and Sialkot Districts and majority of poor households are bound to live in precarious situations with poor sanitary environments and unhygienic conditions. All these factors contribute to the poor health of households which in turn result in low productivity of employees. Thus the evidence suggests that household's employment, income, social, health, education and demographic conditions are not satisfactory in the vicinity of present study.

Consequently, on the basis of the above stated facts, the development in the household's employment opportunities, living circumstances, safe and healthy drinking water and sanitation conditions, provision of economic infrastructure, access to electricity and Sui gas, health and educational facilities, improved shelter conditions and a range of other related community and welfare services. Moreover, the measures should also be taken to improve the economic and social infrastructure in the areas of Gujranwala, Gujarat and Sialkot Districts. The survey results have presented a gloomy picture of employees working in Light engineering units operating in study area. Not any Government policy has directly focused on the betterment of workers working in informal small and medium enterprises, which are considered as the backbone of the economy of the study area. As a result of that; there are more than 46 per cent of poor households in the studied sample of employees.

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ANNUXURE A: QUESTIONAIRE CONCERNING EXPORT PROCESS OF FIRMS

SECTION 1: GENERAL INFORMATION

1. City

- Gujranwala ☐
- Gujarat ☐
- Sialkot ☐

2. Organization name

……
……

3. National Sales Tax registration Number

……

4. Engineering field ☐
   - Electric Fans ☐
   - Electric Motors ☐
   - Electric Goods And Parts ☐
   - Electrical Machinery ☐
   - Washing Machines ☐
   - Parts Of Washings Machines ☐
   - Water Pumps ☐
5. Designation of the respondent

……

6. Name

……

7. Age (in years) ☐
8. Education

- Illiterate ☐
- Primary Education ☐
- Metric or Higher Education Income ☐

Section 1: Measures of Export Performance

9. Firm participated in export activities during the years of 2009 and 2010

- Yes ☐
- No ☐

SECTION 2: FIRM LEVEL CHARACTERISTICS

10. Investment at the start of the project (in Rs)

……

11. Number of full time employees

……

12. Age of firm (in years) ☐

13. Manufacturing Status

- Contractor ☐
- Sub-Contractor ☐

14. Affiliation with product wise trade unions

- Yes ☐
- No ☐

15. Affiliation with area wise trade unions

- Yes ☐
- No ☐

16. Firm's revenue/ month (in Rs) ☐
17. Number of Unskilled workers ☐
18. Number of semi-skilled workers ☐
19. Number of skilled workers ☐
20. Total expenditures in the form of employees cost ☐
21. Number of years in exporting business ☐

SECTION 3: FIRM'S TECHNOLOGICAL CAPABILITIES

22. Introduction of New product in the years of 2009 and 2010

- Yes ☐
- No ☐

23. Introduction of New production process in the years of 2009 and 2010

- Yes ☐
- No ☐

24. Introduction of major improvements in existing equipments in the years of 2009 and 2010

- Yes ☐
- No ☐

25. Investment in Capacity building in the years of 2009 and 2010

- Yes ☐

- No ☐

26. Investment in Replacing old equipment during the years 2009 and 2010

- Yes ☐
- No ☐

27. Investment in improving productivity in the years of 2009 and 2010

- Yes ☐
- No ☐

28. Investment in product quality in the years of 2009 and 2010

- Yes ☐
- No ☐

29. Investment in producing new product in the years of 2009 and 2010

- Yes ☐
- No ☐

30. Investment for other purposes in the years of 2009 and 2010

- Yes ☐
- No ☐

31. If Firm's owner has perceived the importance of lacking finance in staring up new projects in the years of 2009 and 2010

- Yes ☐
- No ☐

32. If firm's owner perceived the Importance of lacked market acceptance in staring up new projects in the years of 2009 and 2010

- Yes ☐
- No ☐

33. If firm's owner perceived the importance of lacking skilled workers in staring up new projects in the years of 2009 and 2010

- Yes ☐
- No ☐

34. Utilization of Unique production process

- Yes ☐
- No ☐

SECTION 4: FIRM'S COMMERCIAL CAPABILITIES

35. Number of products being produced by the firm ☐
36. Presence of Trade marks

- Yes ☐
- No ☐

37. Presence of Registered Trade Marks

- Yes ☐
- No ☐

38. Utilization of Trade fairs in exploring international markets

- Yes ☐
- No ☐

39. Utilization of Personal visits/References in exploring international markets

- Yes ☐
- No ☐

40. Utilization of imported raw material in production processes

- Yes ☐
- No ☐

SECTION 5: EXPORT RESTRICTING FACTORS

41. Non-availability of Information restricts firms to enter in the international markets

- Yes ☐
- No ☐

42. Non-cooperation of Government organizations restricts firms to enter in the international markets

- Yes ☐
- No ☐

43. Increased level of competition restricts firms to enter in the international markets

- Yes ☐
- No ☐

44. Financial Problems restrict firms to enter in the international markets

- Yes ☐
- No ☐

45. The factor of cost in-competitiveness restricts firms to enter in the international markets

- Yes ☐

- No ☐

46. High cost of visiting foreign markets restricts firms to enter in the international markets

- Yes ☐
- No ☐

ANNUXURE B: QUESTIONAIRE CONCERNING EXPORT AND JOB CREATION

SECTION 1: GENERAL INFORMATION

1. City

- Gujranwala ☐
- Gujarat ☐
- Sialkot ☐

2. Organization name

……
……

3. National Sales Tax registration Number

……

4. Firm participated in export activities during the years of 2009 and 2010

5. Yes ☐
6. No ☐

7. Engineering field

- Electric Fans ☐
- Electric Motors ☐
- Electric Goods And Parts ☐
- Electrical Machinery ☐
- Washing Machines ☐
- Parts Of Washings Machines ☐
- Water Pumps ☐

8. Experience of Firm in terms of employment Generation during the years of 2009 and 2010

- Increase ☐
- Decrease ☐
- Constant/stable ☐

SECTION 2: OWNER-MANAGER CHARACTERISTICS

9. Designation of the respondent

……

10. Name

……

11. Age (in years) ☐
12. Education

- Illiterate ☐
- Primary Education ☐
- Metric or Higher Education Income ☐

13. Whether the owner is keen to take risk

- Yes ☐
- No ☐

14. Whether the owner has initiated his business to be his own boss/desire of independence

- Yes ☐
- No ☐

15. Whether the owner has established the business because of Unemployment push

- Yes ☐
- No ☐

16. Whether the owner is running this business as a part time job

- Yes ☐
- No ☐

17. Whether the current business is your family business

- Yes ☐
- No ☐

18. Did you acquired any industry specific know how before starting this business

- Yes ☐
- No ☐

19. Did you acquired any previous ownership experience before starting this business

- Yes ☐
- No ☐

21. Do you prefer to work through different networks?

- Yes ☐
- No ☐

22. Running business under partnership

- Yes ☐
- No ☐

SECTION 3: FIRM LEVEL CHARACTERISTICS

23. Number of full time employees

……

24. Age of firm (in years) ☐

25. Introduction of New product in the years of 2009 and 2010

- Yes ☐
- No ☐

26. Introduction of New production process in the years of 2009 and 2010

- Yes ☐
- No ☐

27. Introduction of major improvements in existing equipments in the years of 2009 and 2010

- Yes ☐
- No ☐

28. Percentage of sales to local markets

29. Different modes of financing used to finance business

- Internal sources ☐
- External sources ☐
- Both ☐

30. Diversified their product mix during the years of 2009 and 2010

- Yes ☐
- No ☐

31. Number of markets dealing with

32. Offering on job training to employees

- Yes ☐
- No ☐

33. Utilization of Unique production process

- Yes ☐
- No ☐

34. Market orientation on behalf of Firm's owner/manager

- Yes ☐
- No ☐

35. The change in the Firm's share in market during the last two years

- Increased ☐
- Decreased ☐
- Constant/Stable

36. Do the firm has capability to adapt its pricing policy with respect to market

- Yes ☐
- No ☐

Section 4: Growth Restricting Factors

37. Is your business is affected by regulations on Foreign trade

- Yes ☐
- No ☐

38. Is your business is affected by existing level of taxes

- Yes ☐
- No ☐

39. Other rules and regulations are affecting your Firm's growth

- Yes ☐
- No ☐

40. Political instability is restricting firm's growth in terms of generating employment opportunities

- Yes ☐
- No ☐

41. Do the changes in the market demand due to imports or other factors affect firm's growth

- Yes ☐
- No ☐

42. Lack of skilled labor force is affecting your business

- Yes ☐
- No ☐

43. Limited access to new markets influence the firm's growth

- Yes ☐

- No ☐

44. Financial constraints restrict firms to flourish in terms of generating employment opportunities

- Yes ☐
- No ☐

ANNUXURE C: QUESTIONAIRE CONCERNING EXPORT AND POVERTY

SECTION 1: GENERAL INFORMATION

1. City

- Gujranwala ☐
- Gujarat ☐
- Sialkot ☐

2. Organization name

……
……

3. Nature of firm

- Exporter ☐
- Non-exporter ☐

4. Engineering field ☐
- Electric Fans ☐
- Electric Motors ☐
- Electric Goods And Parts ☐
- Electrical Machinery ☐
- Washing Machines ☐
- Parts Of Washings Machines ☐
- Water Pumps ☐

5. Name

……

Section 1: Economic Characteristics of Employees

6. Age (in years) ☐
7. Education

- Illiterate ☐
- Primary Education ☐
- Metric or Higher Education Income ☐

8. Level of skill

- Unskilled, ☐
- Semi-Skilled ☐
- Skilled ☐

9. Satisfaction with the current job

- Not Satisfied ☐
- Marginally satisfied ☐
- Satisfied to some extant ☐

- Satisfied ☐

10. Experience (in number of years) ☐
11. Number of male workers ☐
12. Number of female workers ☐
13. Income from all the sources (in rupees /month) ☐
14. Illiterate male ☐
15. Illiterate females ☐
16. Secondary education males ☐
17. Secondary education females ☐
18. Up to college university males ☐
19. Up to college university females ☐
20. Number of children going to school ☐
21. Agricultural income

- Has access ☐
- No access ☐

22. Per capita income ☐

Section 2: Social Characteristics of Employees

23. Medical facilities

- Has access ☐
- Not access ☐

24. Housing ownership

- Not own ☐
- Own ☐

25. Housing structure

- Kacha ☐
- Packa ☐

26. No. of rooms ☐
27. Percentage of income spend on food ☐
28. Drinking water sources

- Water Supply ☐
- Hand Pump/ Open Well ☐
- Others ☐

29. Nature of sanitation system

- Has toilet ☐
- Open space ☐
- Otherwise ☐

30. Availability of electricity

- No access ☐
- Has access ☐

31. Nature of fuel used for cooking

- Sui gas ☐
- Kerosene oil ☐
- wood ☐
- Otherwise ☐

Section 3: demographic Characteristics of Employees ☐

32. Household head age (in years)
33. Education of Household Head

- Illiterate ☐
- Primary Education ☐
- Metric or Higher Education Income ☐

34. Relationship with household head

- Head Himself ☐
- Brother ☐
- Son ☐
- Other ☐

35. Households size ☐
36. Number of children ☐
37. Number of adults ☐
38. Number of old age persons ☐
39. Number of males ☐
40. Number of females ☐